

BOB PORTER

1

1182

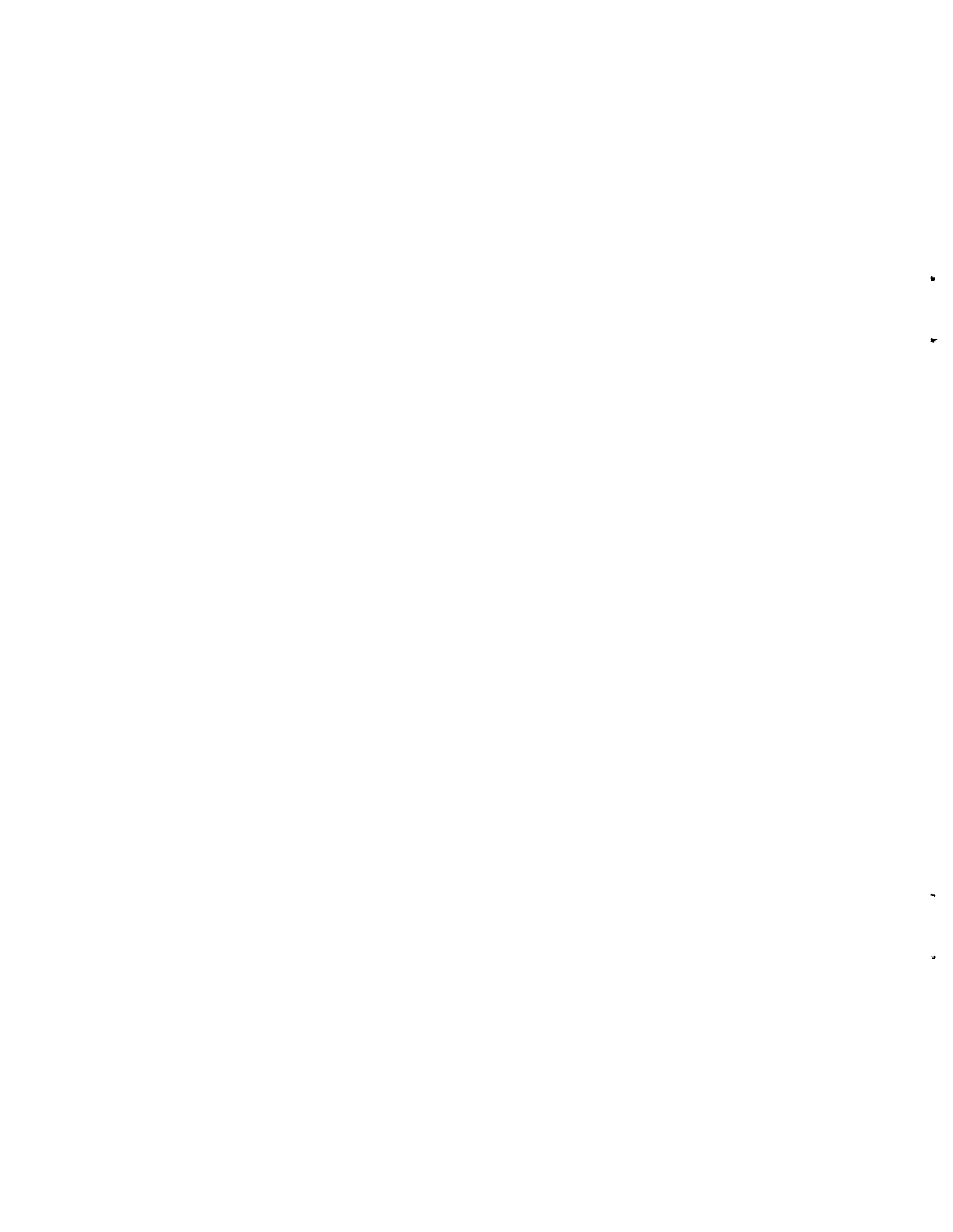
03-0093

**CUSTOMER
ENGINEERING
DIVISION**



**MODEL 5538 TWIN SHEET FEEDER (TSF)
INSTALLATION AND ADJUSTMENT MANUAL**





This manual provides field personnel with the information necessary to install and maintain the Wang Model 5538 Twin Sheet Feeder. It is a compilation of the contents of WPNL 43.1, WPNL 56.1 and WPNL 56.1A.

This manual contains information concerning both the Twin Sheet Feeder (TSF) for the 5581W Wang Daisy Printer and the TSF for the 5581 Diablo Daisy Printer.

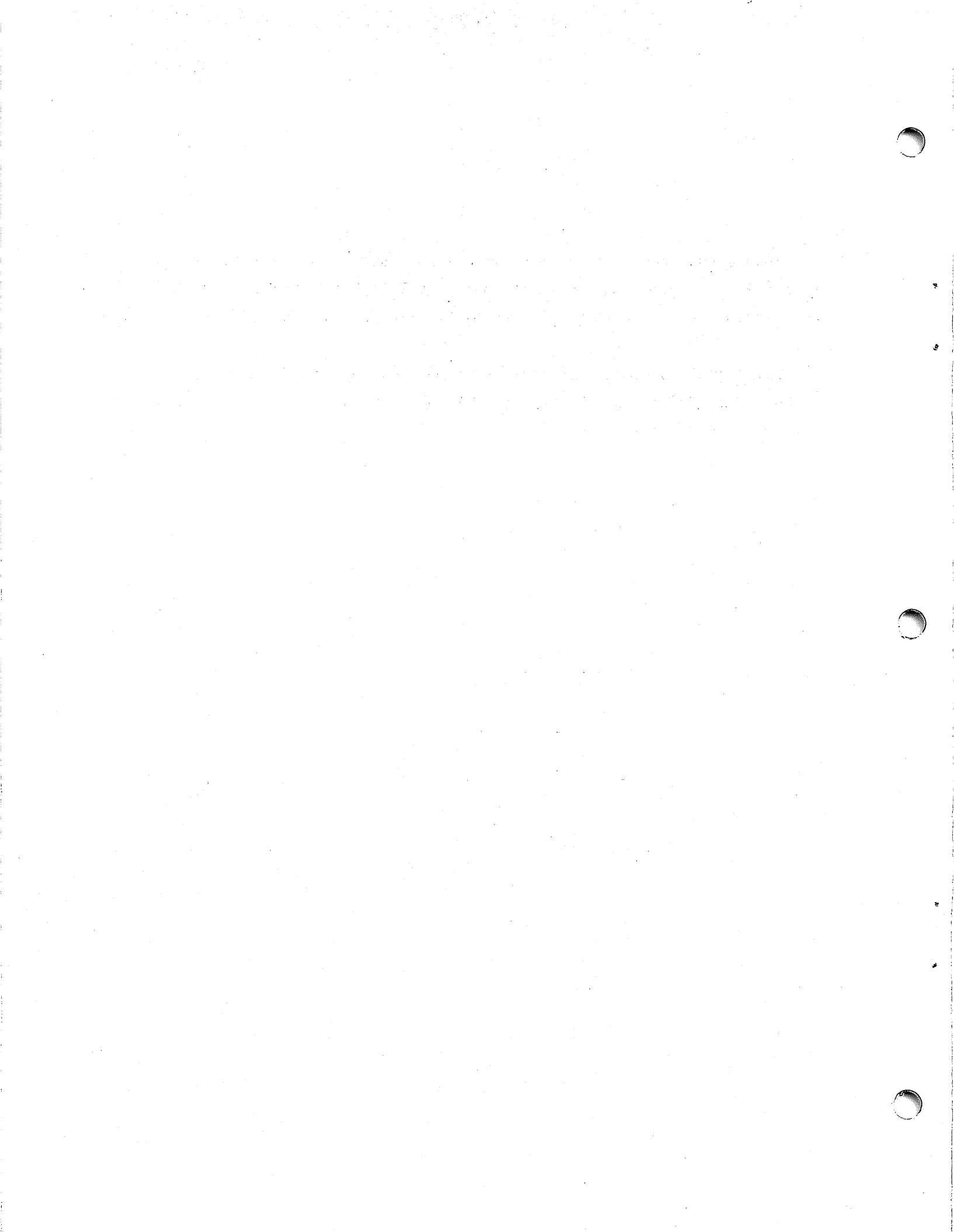


TABLE OF CONTENTS

<u>SECTION AND TITLE</u>	<u>PAGE</u>
1. GENERAL	1
2. INSTALLATION	3
2.1 PREPARING THE PRINTER	3
2.2 INSTALLING THE TSF	4
3. TSF OPERATION	6
4. CONFIGURATION OF PRINTERS MODIFIED FOR THE TSF	8
5. PHYSICAL DESCRIPTION	18
6. THEORY OF OPERATION OF THE PCB	20
7. FIELD LEVEL ADJUSTMENTS	22
8. GENERAL FIELD INFORMATION	35
8.1 FIVE COMMON ALIGNMENT PROBLEMS	35
8.2 PHOTOCCELL CHECK	36
8.3 REAR HOPPER PAPER FEED PROBLEM	36
9. APPENDICES	37
A. BILL OF MATERIAL	A-1
B. RECOMMENDED SPARES LIST (RSL)	B-1
C. SUGGESTED SPARE PARTS LIST (From WPNL 56.1)	C-1
D. SCHEMATICS	D-1

LIST OF ILLUSTRATIONS

<u>FIGURE NO.</u>	<u>TITLE</u>	<u>PAGE</u>
COVER SHEET	MODEL 5538 TWIN SHEET FEEDER INSTALLED ON A 5581W AND A 5581 PRINTER	FRONT COVER
1.	5581 PRINTER WITH COVERS REMOVED	9
2.	GROUND STRAP LOCATIONS	10
3.	5581 CABLE ASS'Y MODIFICATION	11
4.	5581 OLD VS NEW RIGHT REAR COVERS	12
5.	SIDE VIEW TSF INSTALLED	13
6.	PCB CONFIGURATIONS (Old vs. New, 5581)	14
7.	PCB 210-7636 FOR WANG DAISY (5581W)	15
8.	TSF INSTALLED ON WANG DAISY	16
9.	TSF INSTALLED W/OPEN SILENCER HOOD	17
10.	SIDE VIEW TSF & STORAGE STAND	19
11.	HOPPER AND FEEDER ASSEMBLY - LEFT SIDE VIEW	23
12.	KICKER SHAFT ASSEMBLY - FRONT VIEW	24
13.	DRIVER ASSEMBLY - FRONT VIEW	25
14.	FEEDER PLATE AND DRIVE ROLLER	26
15.	FRICTION ROLLERS - REAR VIEW	27
16.	FEEDER PLATE SPRING - LEFT SIDE VIEW	29
17.	GUIDE SPRING	30
18.	TRIPPER	31
19.	TSF POSITION ON PRINTER	32
20.	LEFT PAPER GUIDE BRACKET	33
21.	PINCH ROLLER - TOP VIEW	34
22.	STACKER AND STACKER WIRE	34

1. GENERAL

The 5538 Twin Sheet Feeder (TSF) is an electronically-controlled mechanical device that attaches to either a 5581 (Diablo) or 5581W (Wang) Daisy Printer. It is designed to automatically and continuously feed single sheets of paper, as they are needed, into a printer.

The TSF is easily installed and removed. This permits the printer to be used for special document printing as well as continuous feed operations; thus, increasing the versatility of the printer.

There are no major internal differences between the TSF for the Diablo printer and the TSF for the Wang printer. Externally, the major difference is in the base assembly allowing the TSF to attach to the different printers. In either case the TSF attaches to the printer in the same manner as a forms tractor.

Following is a list of major TSF specifications:

TSF Dimensions:	Diablo / Wang Printers
Height	14 In. (35.56 cm)
Depth	12 In. (30.48 cm)
Width	20.5 IN. (52.0 cm)
Weight	15 lbs. (6.8 Kg)

Electrical Requirements:

Operating Voltage	15 VDC (Supplied from the printer circuitry)
-------------------	----------------------------------------------------

Hopper Capacities:

Front Hopper	200 sheets
Rear Hopper	200 sheets
Total Cap.	400 sheets

Paper Requirements:**Paper Weight**16 lbs. (± 1.10 lbs.)20 lbs. (± 1.10 lbs.)24 lbs. (± 1.10 lbs.)**Paper Size**

8.5 inches X 11 inches

(21.59 cm X 27.94 cm)

8.5 inches X 14 inches

(21.59 cm X 35.56 cm)

Use only bond paper with a rag content of not more than twenty-five percent to ensure proper operation of the TSF.

2. TSF INSTALLATION

2.1 PREPARING THE PRINTER

Before installing the Twin Sheet Feeder, the printer must be prepared as follows:

- A. Remove the cover of the 5581 or 5581W. (See Figure 1)
- B. On Diablo (5581) printers only, install ground straps (WLI #458-0746, right-hand; 458-0747, left-hand) under top cover of printer (See Figure 2). These straps eliminate static potential from the TSF, which is not statically grounded.
- C. If applicable, remove the printer base assembly from the bottom pan and install the three wire molex connector cable (P/N 220-1195) as shown in Figure 3. This cable has been installed in all printers manufactured after February 1978 (FC 3580 or higher). The cable should be secured with small pan ties and is connected as follows:

Black	to	<u>+</u> 0V
White	to	+15V
Orange	to	-15V
- D. Remove the right-hand rear cover (P/N 24474-01), and replace it with the new one, which has an acorn connector and a 6 pin molex connector cable (P/N 220-1303 for Wang; P/N 220-0195 for Diablo). (See Figures 4 and 5)
- E. Mount the 210-7448 PCB on the 210-7446 PCB for 5581 (Diablo) Printers. (See Figure 6)
- F. Replace the 210-7346 PCB with the 210-7446 PCB on 5581 (Diablo) Printers.

- G. Install the 210-7636 PCB on 5581W (Wang) Printers. (See Figure 7)
- H. Plug the molex cables into the molex connectors on the 7448 PCB. (See Figure 6)
- I. Plug the ribbon cable into the 210-7446 PCB, on 5581 printers only. (See Figure 6)
- J. Reassemble the printer.
- K. Software must be at revision 15.0/5.0 or higher.

NOTE

In the daisy printer for the WPS 5 system, replace the 210-7449 Junction Board with a 210-7449-1 Junction Bd. In WPS 5 systems with shared printer option (Two WPS 5 systems using one printer), the 210-7545 Junction Bd. remains unchanged.

2.2 INSTALLING THE TSF ON THE PRINTER

The TSF is installed on the 5581 and 5581W printers as follows:

- A. Remove any paper from the printer platen before installing TSF.
- B. Remove the paper scale and pull the paper bail forward on the printer.
- C. Remove the TSF from the storage stand by grasping the handles and lifting up. This stand should be used whenever the TSF is not mounted on the printer. This is done to prevent damage to the TSF. (See Figure 10)
- D. Place the TSF on the printer as you would a forms tractor. Releasing the handles causes the TSF clamps to close onto the printer. (See Figures 5 and 8)

- E. Plug the TSF into the acorn connector (TSF cable connection) located on the new right rear cover. (See Figure 5)
- F. Place the Load/Run Lever in the Load position.
- G. The TSF is now ready to be loaded.
- H. Assure that the paper engages the printer correctly. The correct configuration is shown in Figure 9.

3. TSF OPERATION ON 5581 AND 5581W PRINTERS

The TSF has two hoppers for loading paper. (See Figure 10) The front hopper is used to hold the first page of the document, usually company letter head paper. The rear hopper is to be loaded with the paper on which the remaining pages of the document will be printed.

The first sheet, which is loaded by a "Top-of-Form" command, comes from the rear hopper. If a document summary is desired, it is printed on this page. If the document summary is omitted, the "Top-of-Form" command is still given and in this way each document is separated by either a document summary or a blank sheet of paper.

The first sheet of the document is loaded from the front hopper. All other pages of the same document are loaded from the rear hopper. Each sheet is loaded so that printing may begin six line feeds from the top of the paper. When more than one original is printed, the first page of each document original is fed from the front hopper.

To load the paper, push the LOAD/RUN lever to the rear. Place either 8 1/2" X 11" or 8 1/2" X 14" bond paper into the hoppers--never mix different paper sizes--and pull the lever forward. The feeder is now ready to operate. Each load hopper can hold 200 sheets of paper.

When a hopper runs out of paper, remove any paper on the platen by manually turning the platen feeding the paper into the finished document hopper.

**** CAUTION ****

Do not touch the "Top-Of-Form" button/switch to remove the last sheet of paper.

If you wish to refill the hoppers before the paper runs out, be sure to push the LOAD/RUN lever to the rear and load the paper from the rear of the pile. The rear of the pile for the front hopper is that side to the front of the printer, the rear of the pile for the

back hopper is that side to the rear of the printer. Pull the LOAD/-
RUN lever forward and the unit is ready.

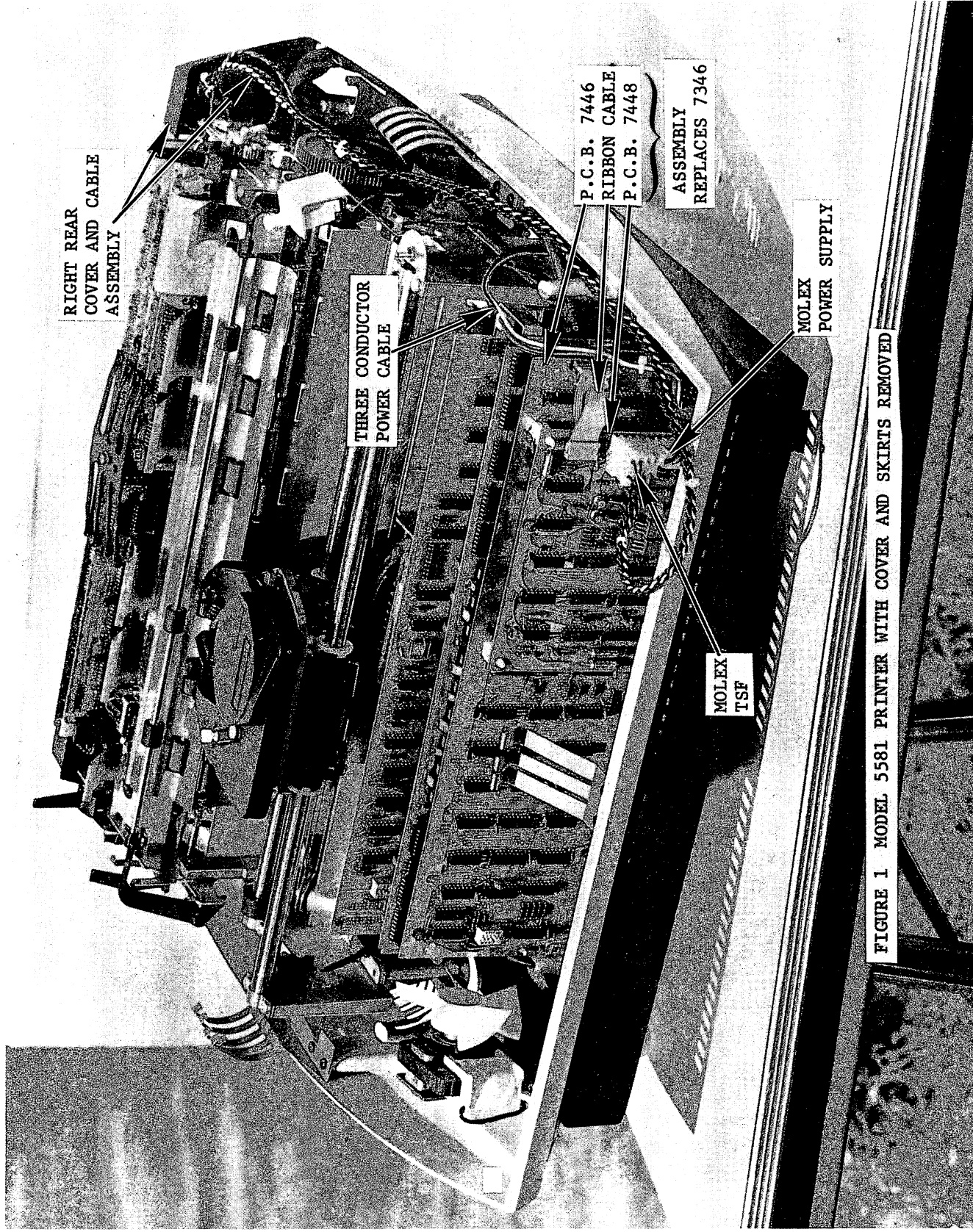
Letter head paper should be loaded into the front hopper upside
down with the print side facing the rear of the printer.

The finished document hopper should be checked periodically to
ensure that it does not overflow and jam. It will hold a maximum of
400 sheets.

4. CONFIGURATION OF PRINTERS MODIFIED FOR THE TSF

The configuration for a standard printer adapted for a Twin Sheet Feeder is as follows:

- A. A 210-7446 PCB replaces the 210-7346 PCB on the 5581 Diablo Printer.
- B. A 210-7636 PCB replaces the 210-7446 PCB on the 5581W Wang Printer.
- C. A 210-7448 PCB is mounted "piggy-back" on the 210-7446 PCB on the Diablo Daisy Printer (5581). (See Figure 6)
- D. The addition of a 210-7447 PCB mounted behind the cover plate in back of the feeder. To gain access to PCB 7447, the two side covers and the rear cover of the TSF must be removed.
- E. The addition of a + 15V Power Cable (P/N 220-1195-1) on the 5581 (Diablo) daisy printer only.
- F. The use of a modified right rear cover and cable ass'y. (P/N 220-0195 for 5581; P/N 220-1303 for 5581W) See Figure 4.
- G. The addition of an IO Cable (P/N 220-0193) to the 210-7447 PCB.
- H. The addition of a Motor Cable (P/N 220-0192).
- I. The addition of an LED Cable (P/N 220-0194).
- J. The addition of stand-offs between the 7446 and 7448 PCB on the Diablo 5581 printer.



RIGHT REAR
COVER AND CABLE
ASSEMBLY

THREE CONDUCTOR
POWER CABLE

P.C.B. 7446
RIBBON CABLE

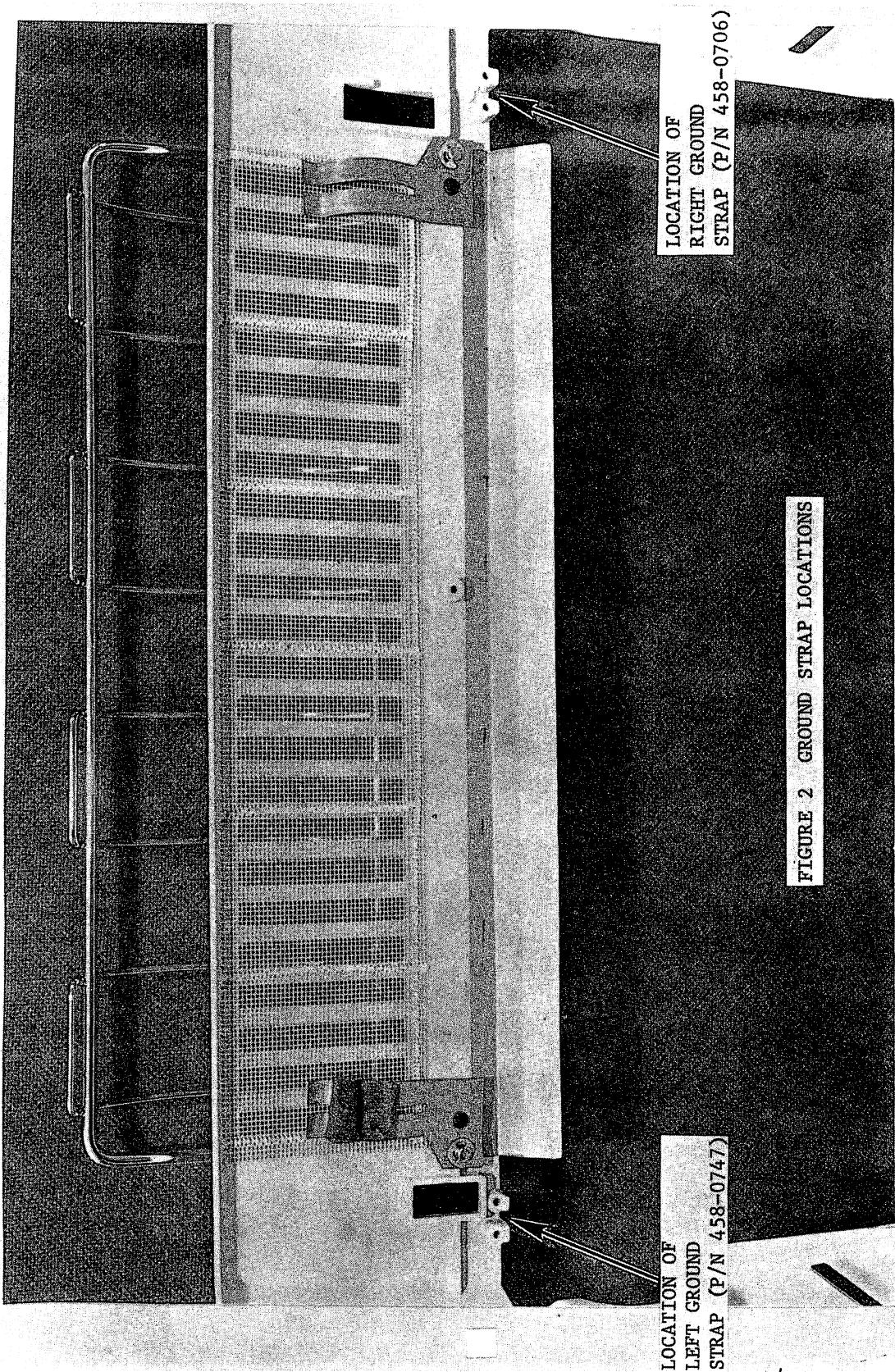
P.C.B. 7448

ASSEMBLY
REPLACES 7346

MOLEX
TSF

MOLEX
POWER SUPPLY

FIGURE 1 MODEL 581 PRINTER WITH COVER AND SKIRTS REMOVED



LOCATION OF
RIGHT GROUND
STRAP (P/N 458-0706)

FIGURE 2 GROUND STRAP LOCATIONS

LOCATION OF
LEFT GROUND
STRAP (P/N 458-0747)

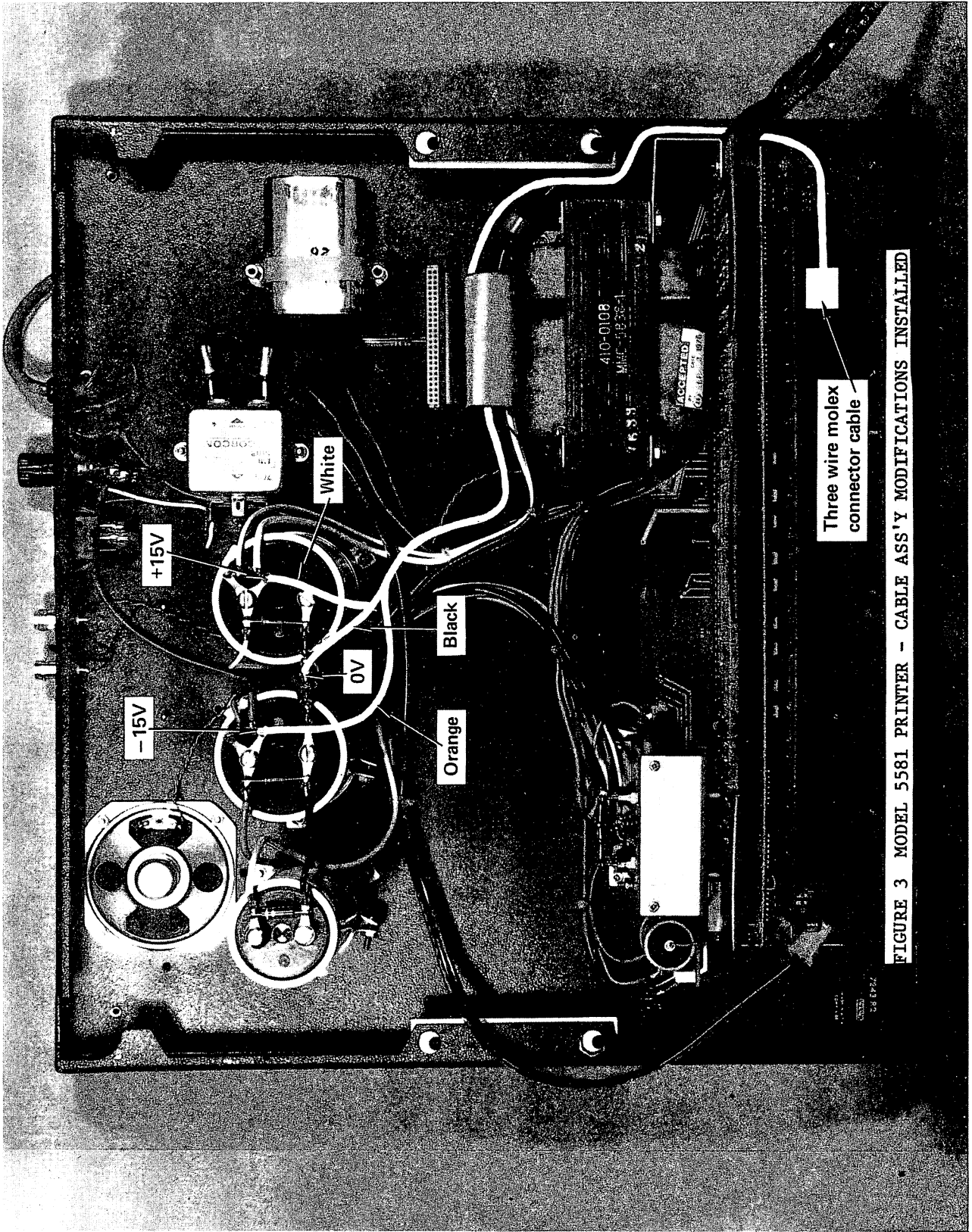
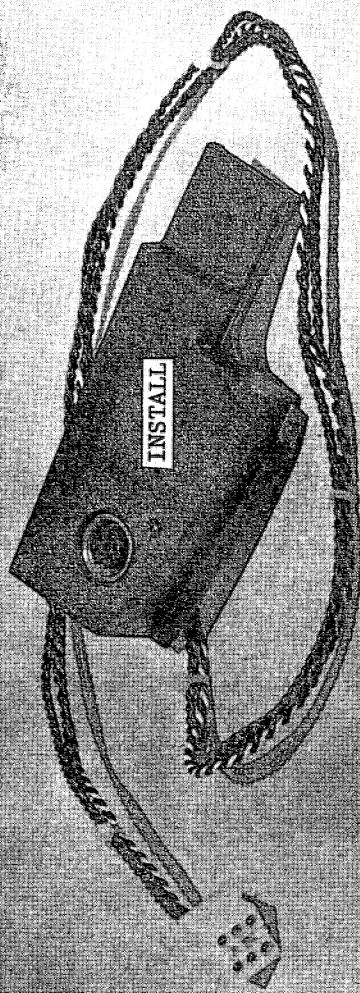
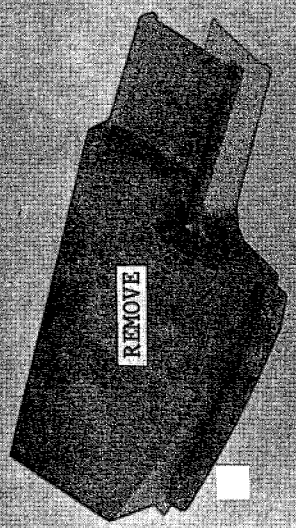


FIGURE 3 MODEL 5581 PRINTER - CABLE ASS'Y MODIFICATIONS INSTALLED



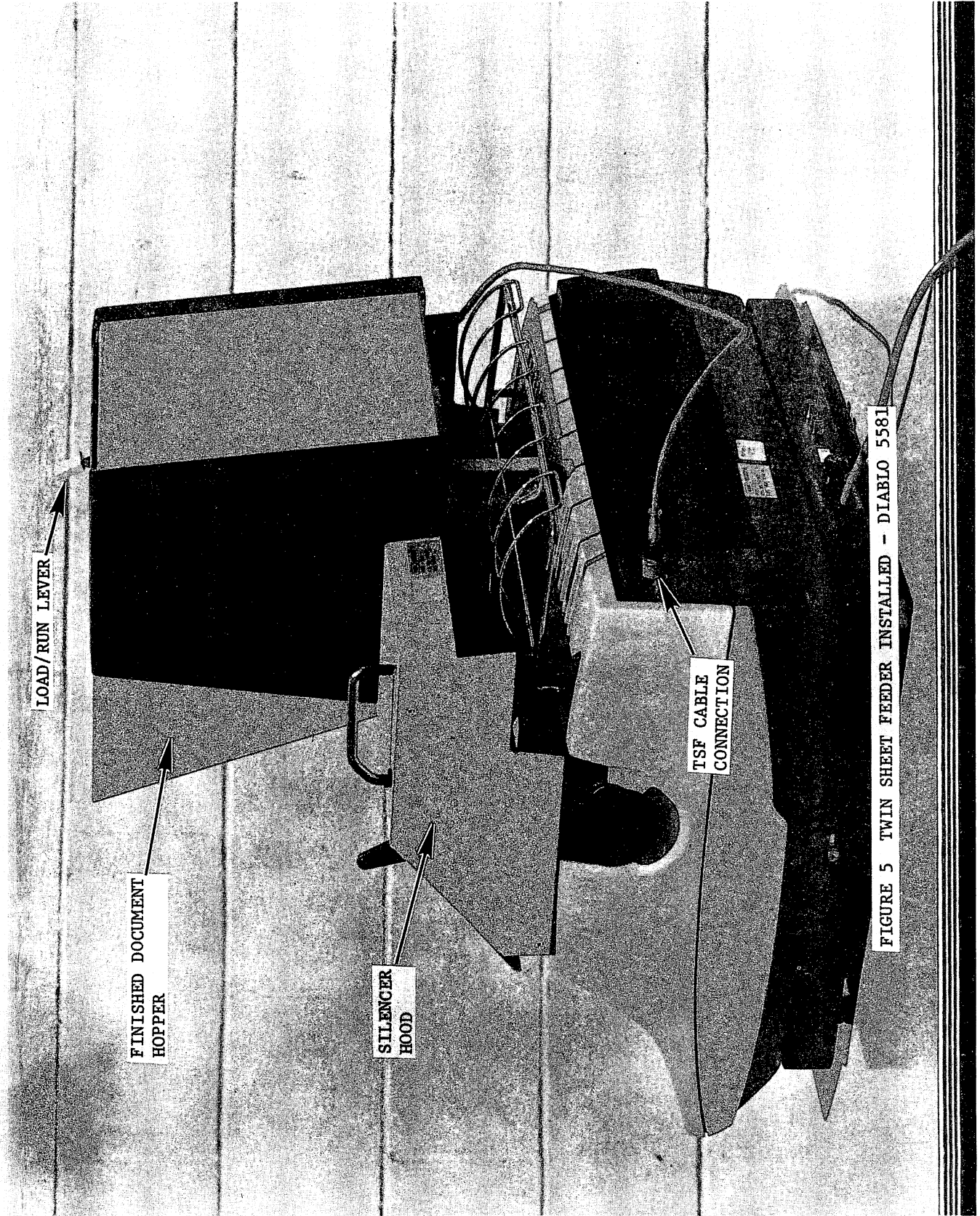
NEW - WLI P/N 220-0195
(COVER ASSEMBLY-5581)

NEW - WLI P/N 220-1303
(COVER ASSEMBLY-5581W)



OLD - DIABLO P/N 24474.01
(COVER)

FIGURE 4 RIGHT REAR COVERS - OLD VS. NEW



PCB 7346 (OLD - REMOVE & REPLACE WITH NEW 7446/7448)

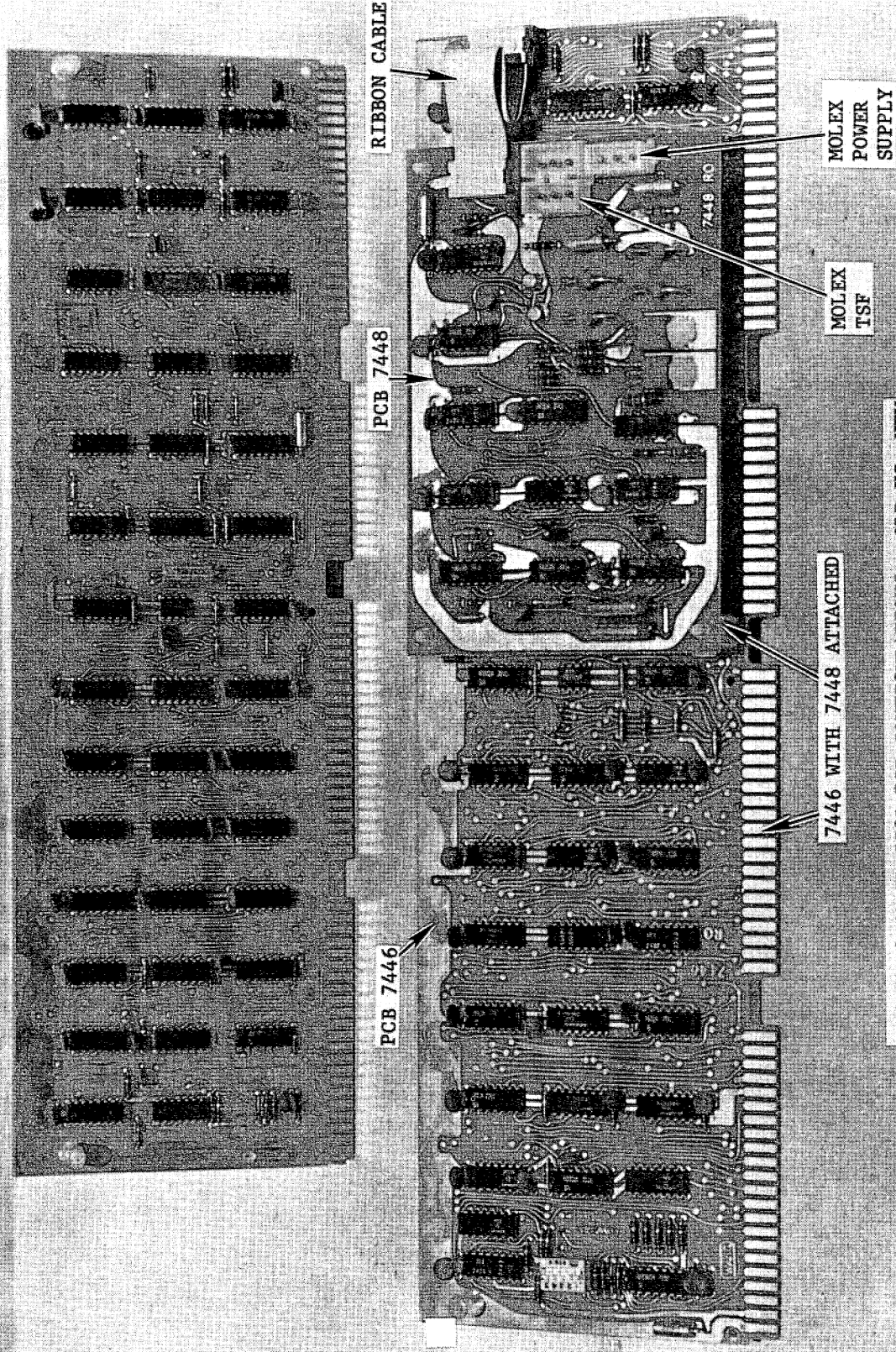
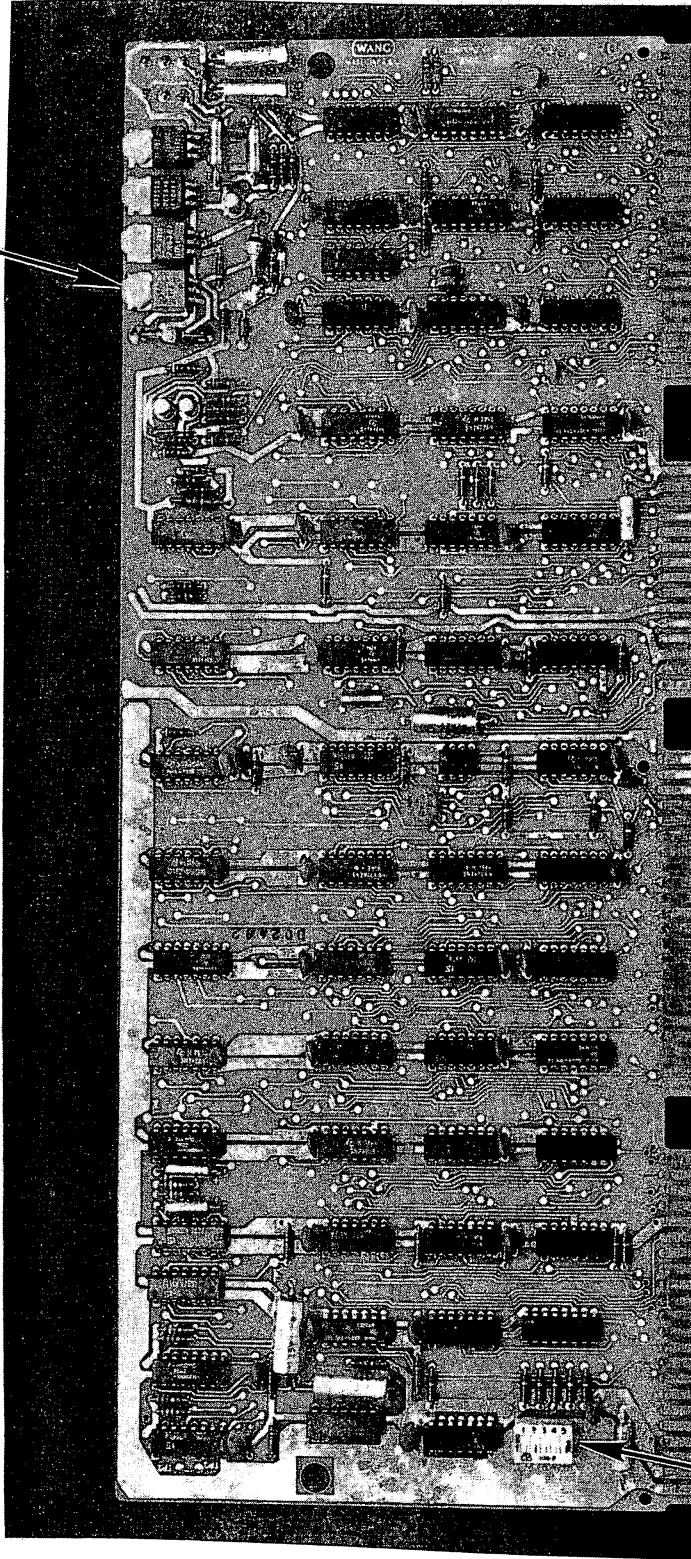


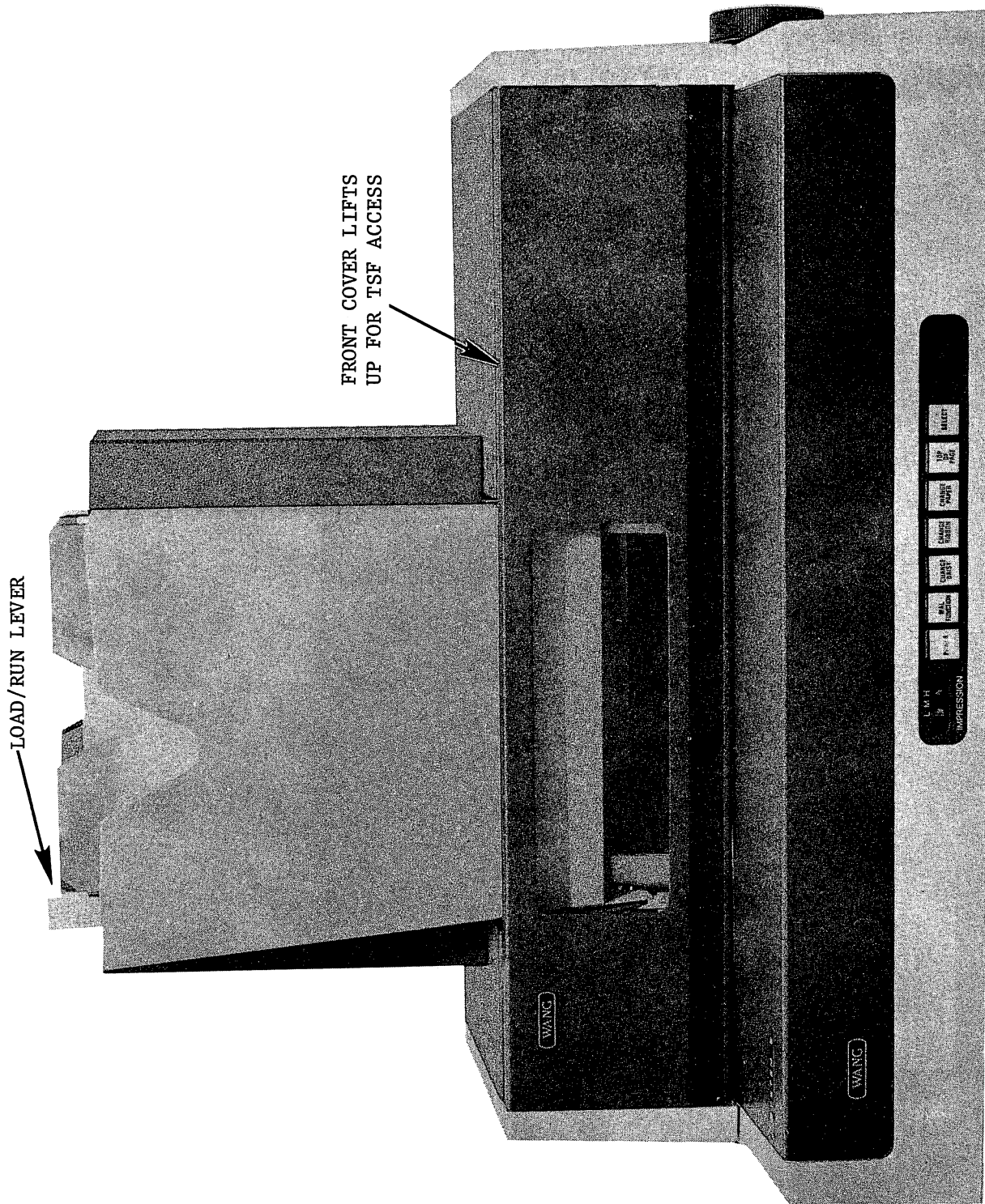
FIGURE 6 MODEL 5581 PCB CONFIGURATIONS - OLD VS. NEW

TRANSISTOR
Q4



DEVICE TYPE
SWITCH (SW 1)

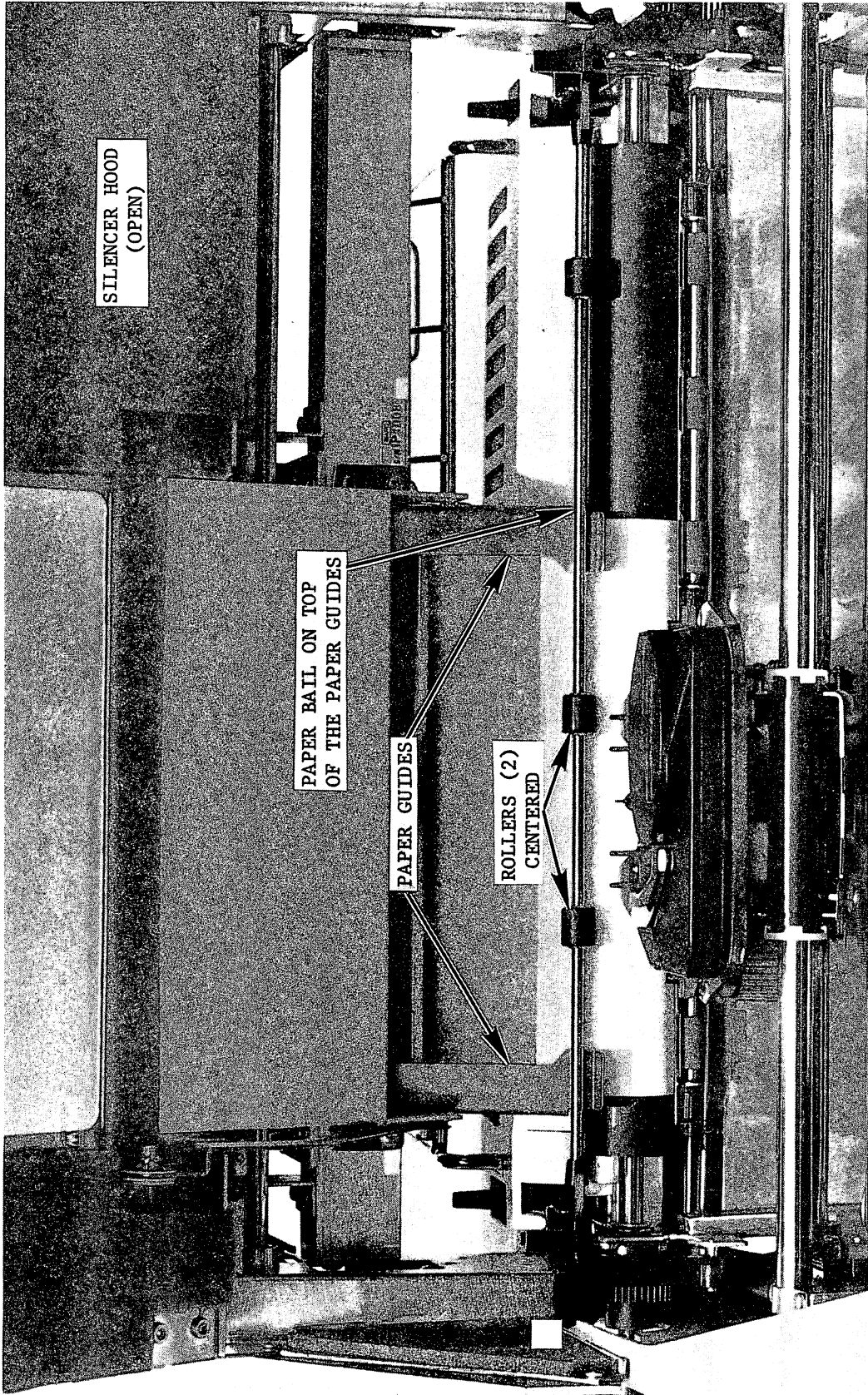
FIGURE 7 210-7636 PCB FOR MODEL 581W PRINTER



FRONT COVER LIFTS
UP FOR TSF ACCESS

LOAD / RUN LEVER

FIGURE 8 TWIN SHEET FEEDER INSTALLED - WANG 5581W



SILENCER HOOD
(OPEN)

PAPER BAIL ON TOP
OF THE PAPER GUIDES

PAPER GUIDES

ROLLERS (2)
CENTERED

FIGURE 9 TSF WITH SILENCER HOOD OPEN

5. PHYSICAL DISCRIPTION

The Twin Sheet Feeder is equipped with a built in silencer hood and includes a stand for storage when the TSF is not being used on the printer. (See Figure 10)

The Twin Sheet Feeder is designed to handle either 8 1/2" X 11" or 8 1/2" X 14" bond paper. Envelopes and carbons should not be loaded into the feeder.

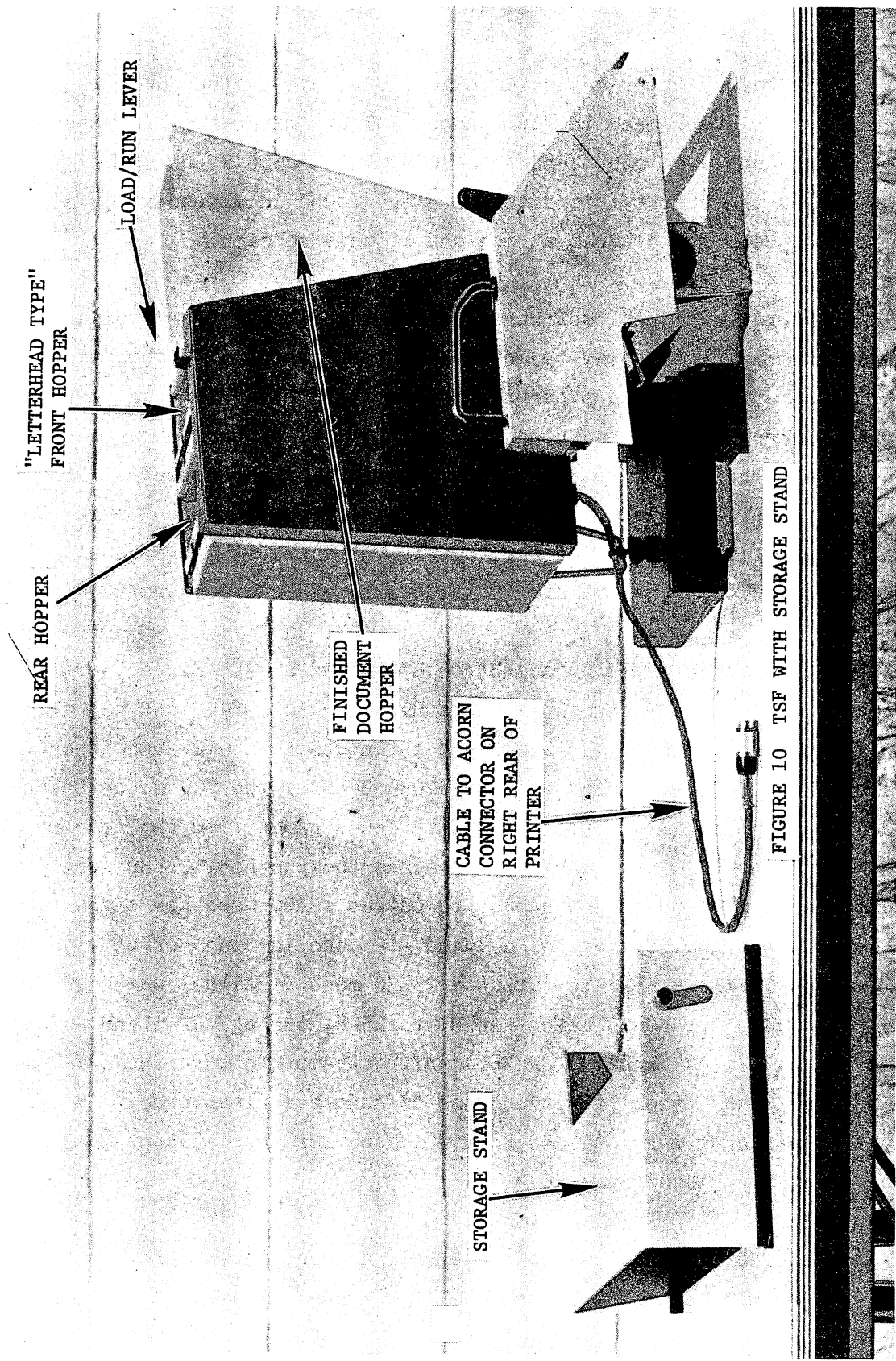


FIGURE 10 TSF WITH STORAGE STAND

6. THEORY OF OPERATION OF THE 210-7448 PCB.

This theory of operation is also applicable to the 5581W Wang printer. However, keep in mind that all logic circuitry discussed below is mounted on one board (210-7636) in the 5581W printer. The schematics to support this discussion are found in Appendix C. Also refer to the block diagram at the end of this section.

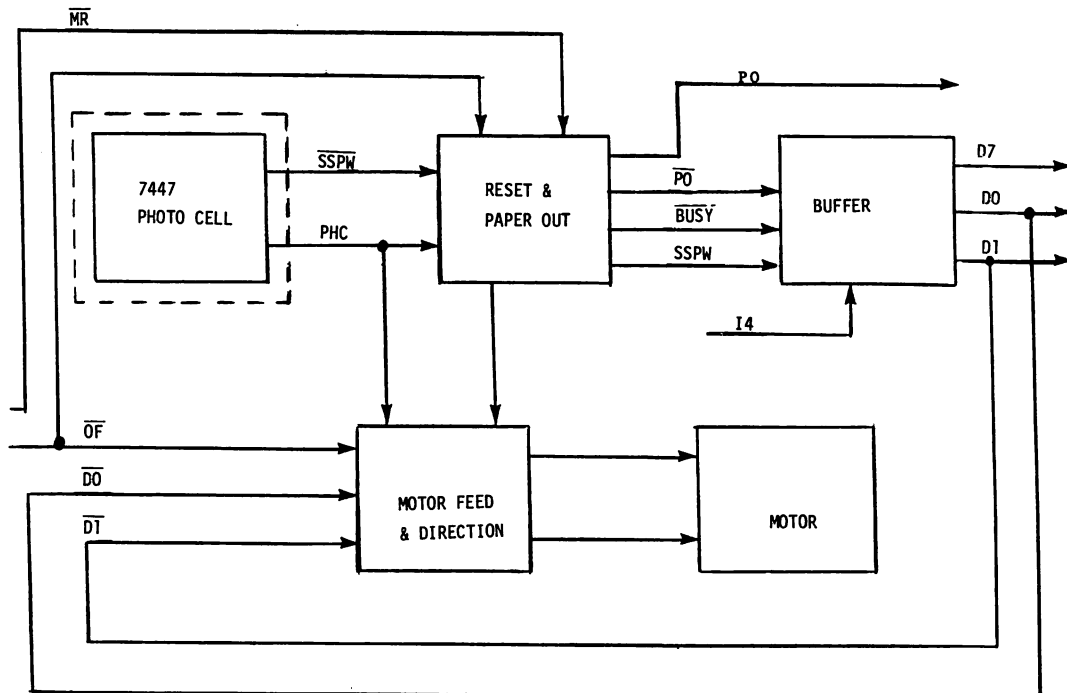
During "Power-Up", software generates a "Top-Of-Form" command to clear any paper which may be in the printer. An "Out Of" command from the 7446 PCB enters the paper feed control (PCB 7448) and is inverted by pins 8 and 9 of L2 and used to clock L3 (OUT OF turns the feeder on). D0 occurs at this time and is gated out of L3 at pin 5. D0 selects the rear hopper, and D1 selects the front hopper. Since the rear hopper is used most often, that is the path to be discussed. The front hopper operation is similar and will not be discussed here.

The output of L3-5 puts a Hi on L7-12 and L5-3. Since there is no paper blocking the photocell, PHC is Hi. A Hi at L7-12 and -13 allows L7-11 to go Hi. The Hi at L7-11 and 13 inputs to L6-12 where the Hi passes through Q2 (2N3014) and Q4 (8203) causing the TSF motor to turn in a counterclockwise direction. This feeds paper from the rear hopper to the photocell. When the paper reaches the photocell, PHC goes Low. This causes L7-6 to go Low and L8 to output a 100 usec Low signal at L8-7. This signal is fed to L5-4 and -12, and in conjunction with the Hi at L5-3, allows L5-6 to output a 25-30 msec Hi signal which is fed to L6-4 and -10. L6-10 gates the Hi to L6-8, through L2-5 and -6 and then to Q1 (GT544) and Q3 (2N6387) which attempt to turn the TSF motor clockwise for 20 msec. This is done to ensure a clean stop. The Hi at L6-4 is gated through L6-6 to L8-1 which causes an output at L8-9 resetting the circuitry.

The reset circuitry consists of L10 and one gate of L7. A Low from L8-9, L11-9, or MR causes L10-3 to go Low. The output of L10-3 is fed to L11-3 and L7-1. L10-3 is the clear input of the paper-out single-shot MVB. A Low at L7-1 causes L7-3 to go Low, which clears L-3. (L7-2 should be Hi when the feeder is plugged into the printer.)

The paper-out circuitry consists of L11 and L4. OUT OF comes in at L11-5 and a Hi at L11-3 will produce a 5 to 10 msec Low pulse at L11-7. This Low is the input to L11-12. The clear input (L11-13) is BUSY. A Hi at L11-13 will allow L11-9 to output to the latch made up by L4. PO is the output of L4-11. IN 4 is used to gate BUSY, PO, and SSPW out to L1. These signals are then monitored by the software on PCB 7446.

PCB 7447 consists of one LM339 (376-0240). The output of the reflective type photocell is passed through the LM399 to PCB 7448 as PHC. The second output from this PCB is SSPW. SSPW is a constant zero volt signal that is fed to PCB 7448. If the feeder is not plugged in, SSPW is seen as a Hi causing any feeder operation in the printer to reset.



PO - PAPER OUT

DO - controls paper feed from the front hopper

D1 - controls paper feed from the front hopper

PHC - signal from the photo cell; low, paper in position; hi, paper out

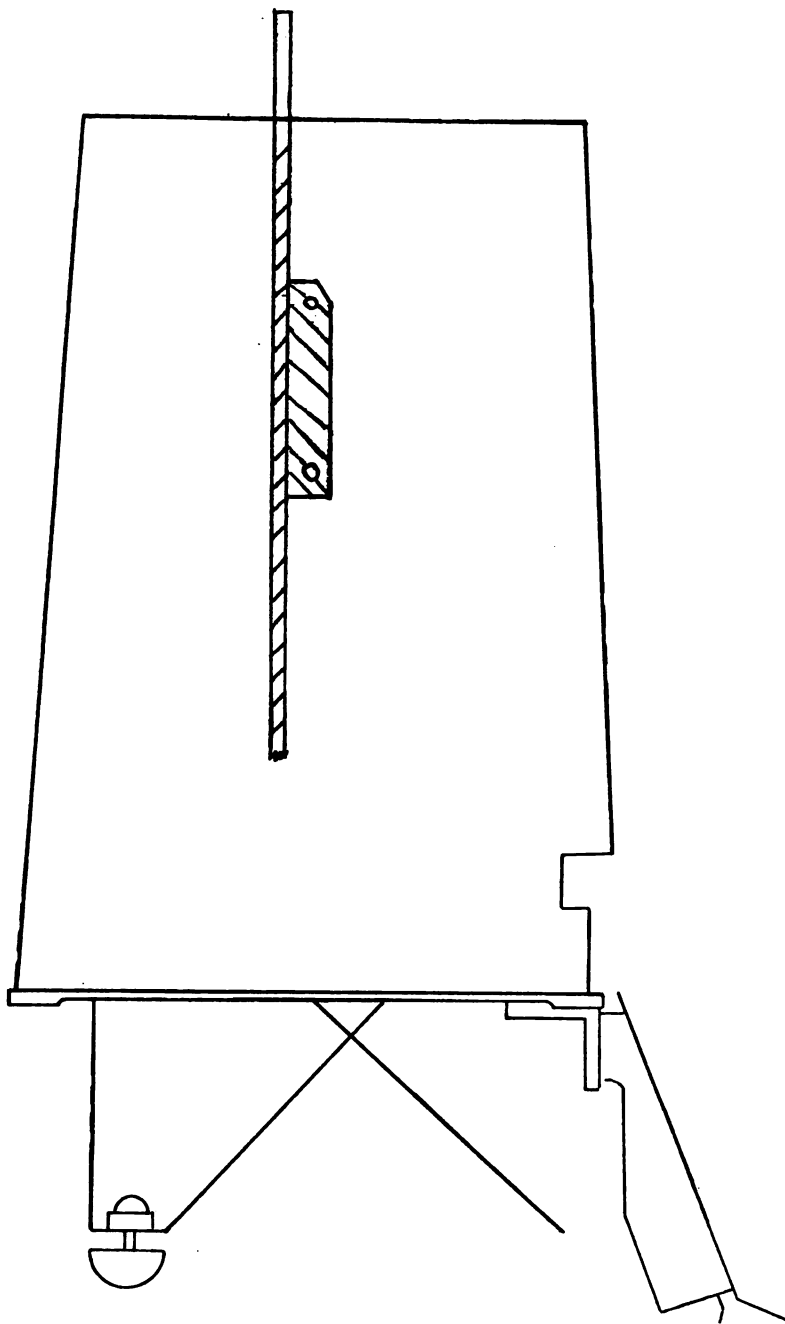
SSPW - +/- 0v signal from the 7447, used to hold the electronics clear when the feeder isn't plugged in

TSF FUNCTIONAL DIAGRAM

7. FIELD LEVEL ADJUSTMENTS

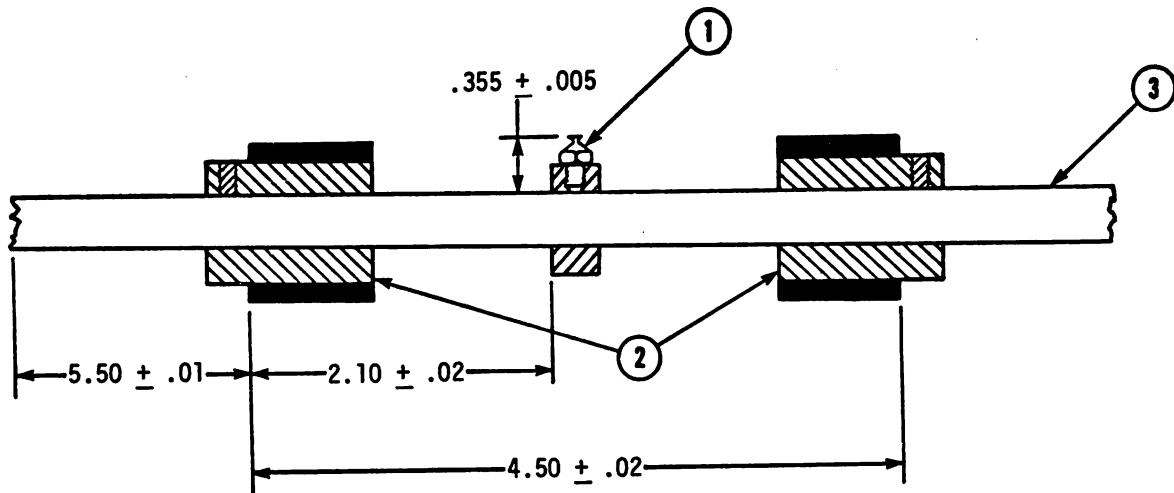
This section consists of a series of figures depicting typical adjustments to be made in the field. Each figure is followed by a description of the adjustment to be performed.

These adjustments are critical to the proper operation of the 5538 Twin Sheet Feeder. Failure to exercise care when making these adjustments can result in serious degradation of TSF performance.



Because of design changes, adapter plate adjustments are no longer necessary.

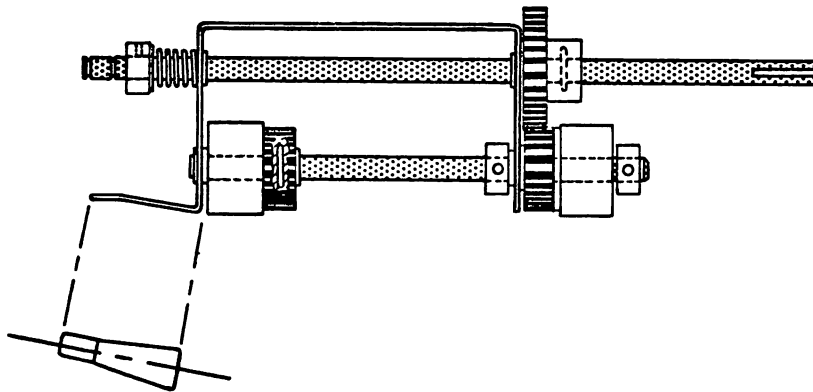
FIGURE 11 - HOPPER & FEEDER ASSEMBLY - LEFT SIDE VIEW



ITEM NO.	NOMENCLATURE	PART NO.
1	Kicker	478-0403
2	Roller, Stacker	478-0407
3	Shaft, Stacker	478-0395

-
- a. The kicker should carry the paper past the rollers. It should not mark the paper.
 - b. The top of the kicker should be $0.355 \pm .005$ " above the shaft.
 - c. The rollers should 4.50 ± 0.02 " apart and 5.50 ± 0.01 " away from the end of the shaft.

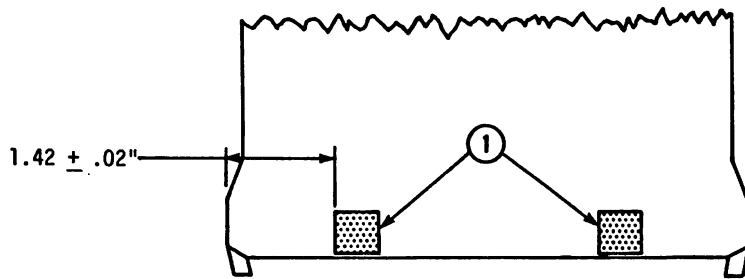
FIGURE 12 - KICKER SHAFT ASSEMBLY - FRONT VIEW



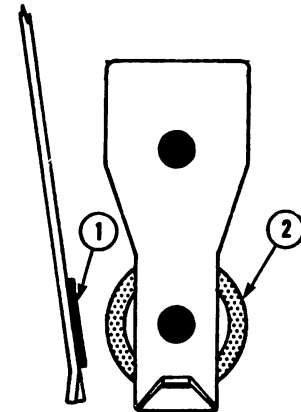
ITEM NO.	NOMENCLATURE	PART NO.
	Driver Bracket Assembly	279-0332

- a. During a feed cycle, be sure that the driver assemblies for the two hoppers remain stationary against the side frame cut-out.

FIGURE 13 - DRIVER ASSEMBLY - FRONT VIEW



FRONT VIEW

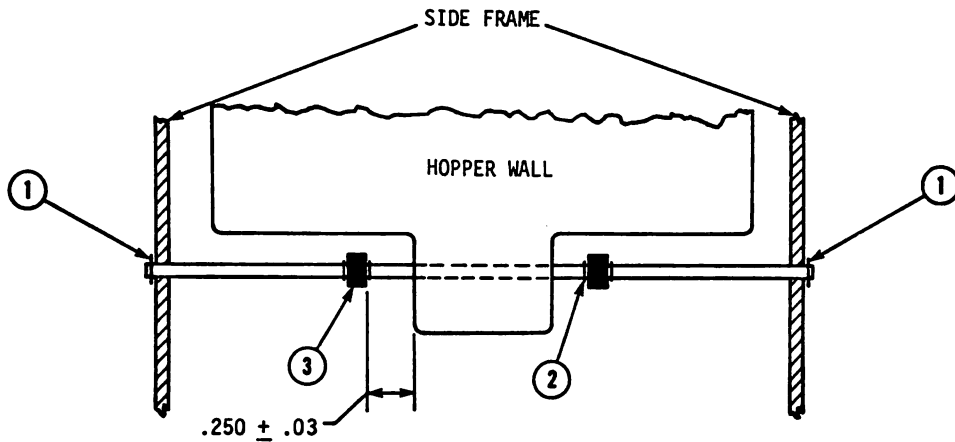


LEFT SIDE VIEW

ITEM NO.	NOMENCLATURE	PART NO.
1	Cork Pad	660-0597
2	Driver Roller	449-0204

-
- a. With the hopper empty and the load lever in the run position, slowly turn the driver gear and observe that both drive rollers and cork pads come in contact at the same time. If they do not, the feeder plate should be formed. (Check both hoppers).
 - b. The cork pads should be 1.42 ± 0.02 " from the edge of the feeder plate.

FIGURE 14 - FEEDER PLATE & DRIVE ROLLER



ITEM NO.	NOMENCLATURE	PART NO.
1	Grip Ring	651-1745
2	Spring, Pinch Roller	656-0108
3	Friction Roller	478-0398
4	Pinch Roller Shaft	478-0392

-
- a. There should be 0.010" of axial motion to the pinch roller shaft between side frames.
 - b. The friction rollers should have 0.010" to 0.20" of axial motion.
 - c. The gap between the hopper wall edge and the roller should be 0.250 ± 0.03 ".

FIGURE 15 - FRICTION ROLLERS - REAR VIEW

REFER TO FIGURE 16

ITEM NO.	NOMENCLATURE	PART NO.
1	Cap, Load Lever	449-0027
2	Feeder Plate Cam Stud	461-3370
3	Spring, Feeder Cap	465-0921
4	Spring, Load Lever	465-1615
*5	Pivot Rod	478-0440

- a. With no paper in the hoppers and the load lever in the "LOAD" position, it should require 6.5 oz. (+ 0.5 oz.) of force to separate the feeder plate from the load lever cam surface (Point B) when spring force is applied at Point A. Repeat for front feeder plate.
- b. If the tension is incorrect, the springs (item 3) should be replaced, because crooked paper feeding, or printer time out may occur.

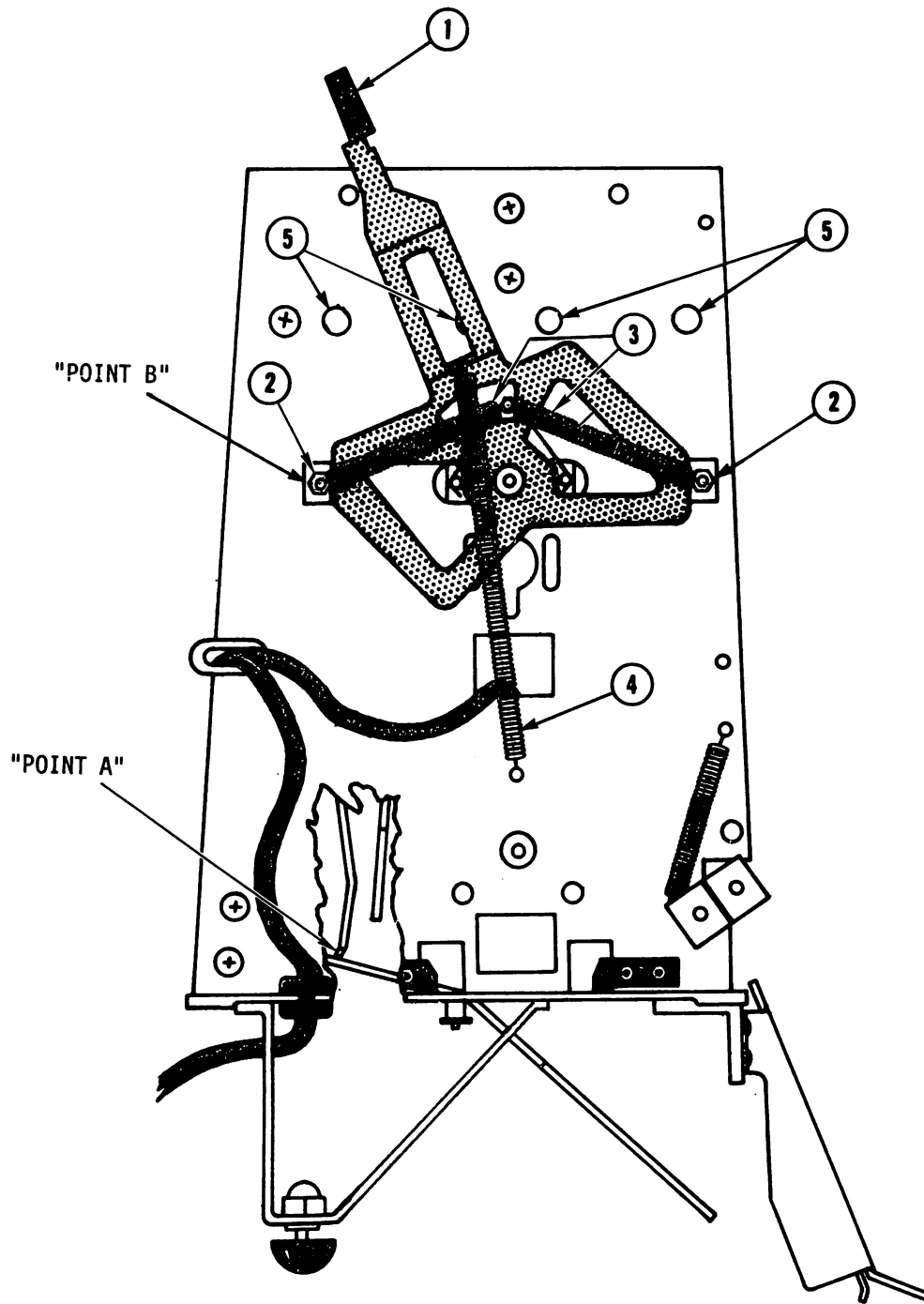
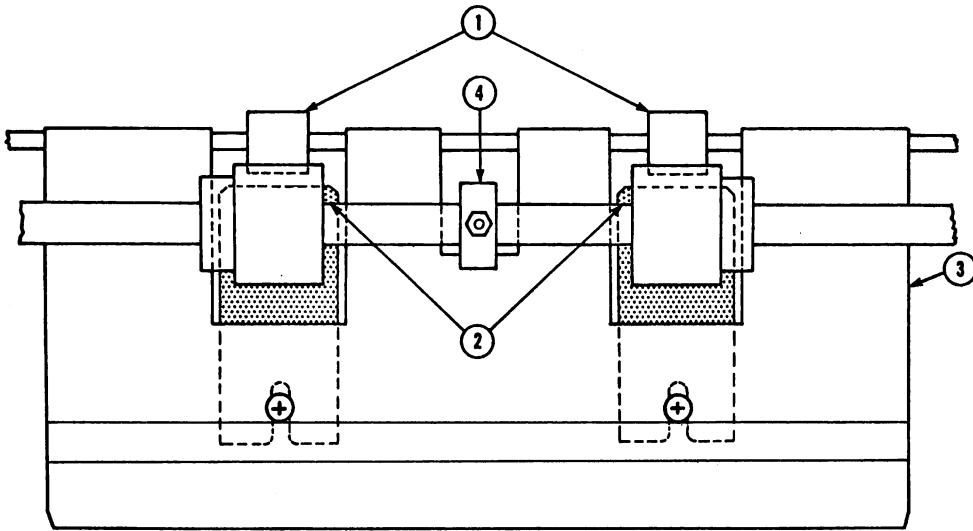
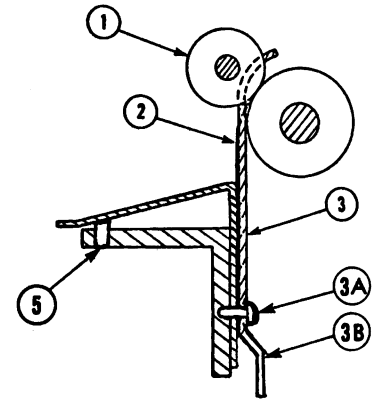


FIGURE 16 - FEEDER PLATE SPRING - LEFT SIDE VIEW



FRONT VIEW

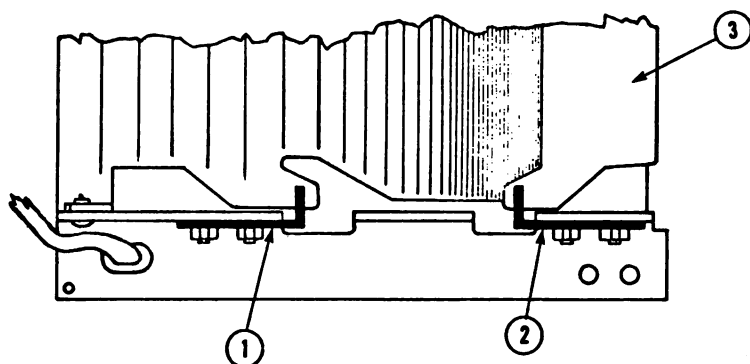


LEFT SIDE VIEW

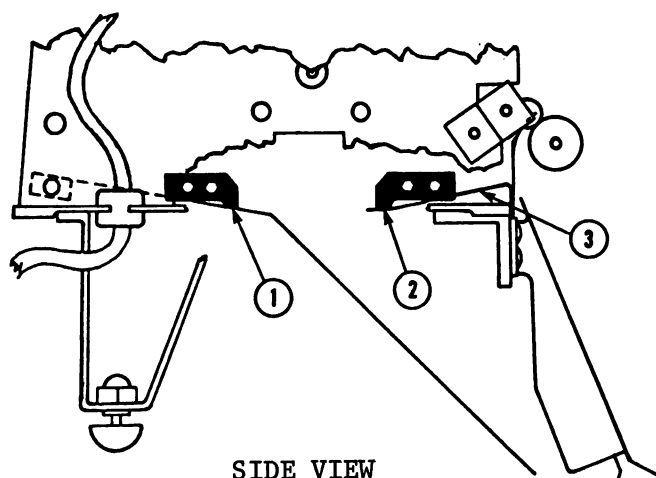
ITEM NO.	NOMENCLATURE	PART NO.
1	Pinch Roller Assembly	279-5113
2	Guide Spring	465-1685
3	Stacker Paper Guide	452-4064
*A.	Pan Head Screw	
*B.	Paper Guide angled to permit use of pan head screw	
4	Kicker	478-0403
*5	Set screw (one under each Tab) allows adjustment of front Rest Plate	

-
- The guide spring is located (sandwiched) between the front rest plate and the Stacker Paper Guide.
 - Adjust the spring to "just touch" the stacker roller.
 - Be sure that the spring is flush to the stacker roller and does not interfere with the operation of the pinch roller.
 - Be sure that the guide spring is centered in the cut-outs of the stacker paper guide.

FIGURE 17 - GUIDE SPRING



TOP VIEW

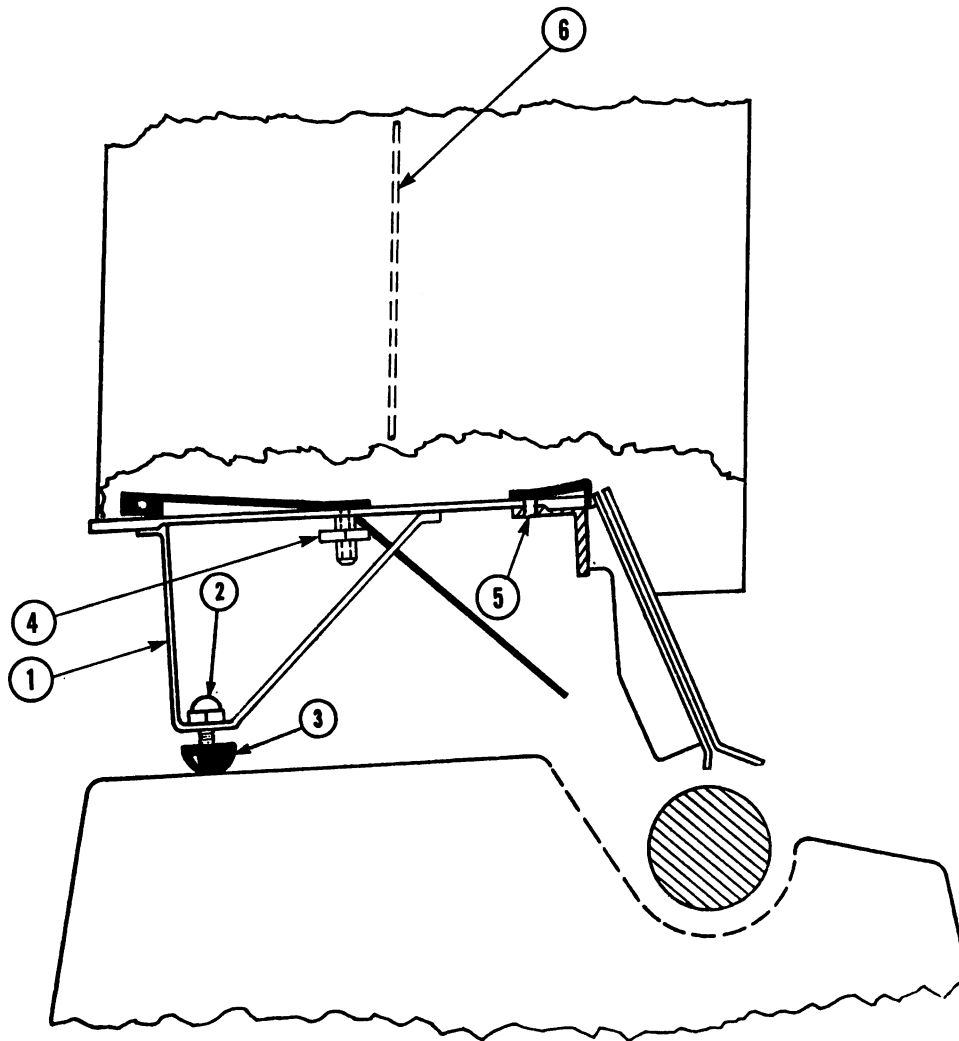


SIDE VIEW

ITEM NO.	NOMENCLATURE	PART NO.
1	Tripper, left handed	451-4657
2	Tripper, Right handed	451-4656
3	Rest Plate	452-0517

-
- a. The Tripper "MUST" be flat on the rest plate.
 - b. The Tripper should be adjusted so that only one sheet of paper will feed. This could vary between units and with different paper thicknesses.

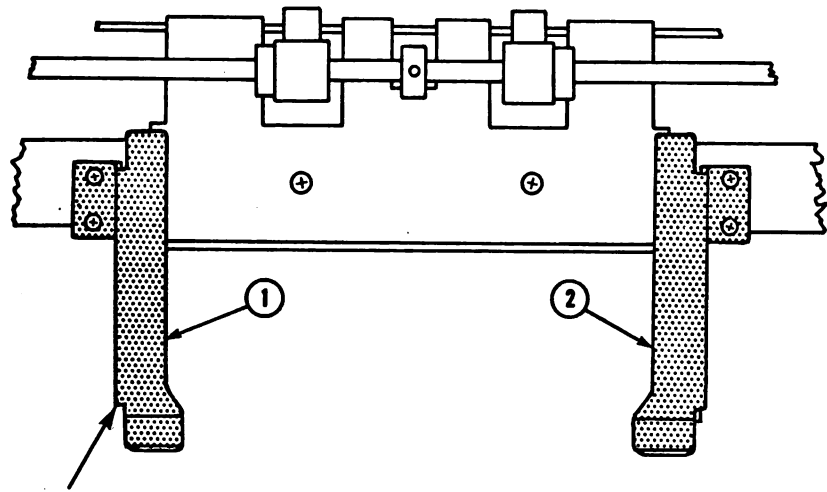
FIGURE 18 - TRIPPER



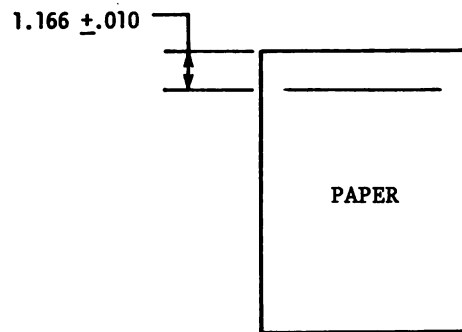
ITEM NO.	NOMENCLATURE	PART NO.
1	Rear Leg	451-0244
2	Acorn Nut	652-6004
3	Foot	655-0252
*4	Jack Screw	478-0439
*5	Set Screw	
*6	Center Brace (for increased stability of TSF)	

-
- a. The top surface of the feeder should be parallel (+5 degrees) to the table. This can be set by adjusting the foot on the rear leg.
 - b. Items 4 & 5 are modifications that have been added to correct skew problems. Both adjustment screws are preset and sealed before shipping so all normal adjustments should be made before resorting to adjusting these screws.

FIGURE 19 - TSF POSITION ON PRINTER



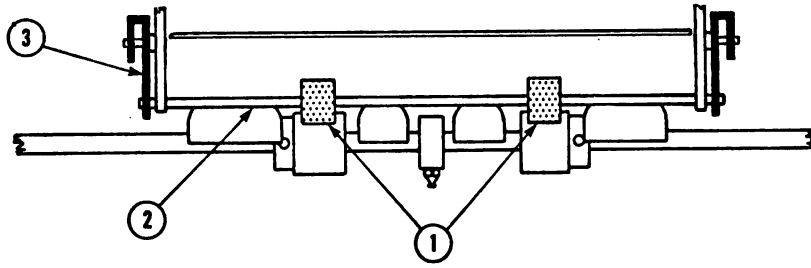
LOCATION OF PAPER
SENSE PHOTO CELL



ITEM NO.	NOMENCLATURE	PART NO.
1	Right Paper Guide	452-4067
2	Left Paper Guide	452-4066

-
- a. Assure that the paper guides permit the paper to feed without binding, and that the guides do not rest on the platen.

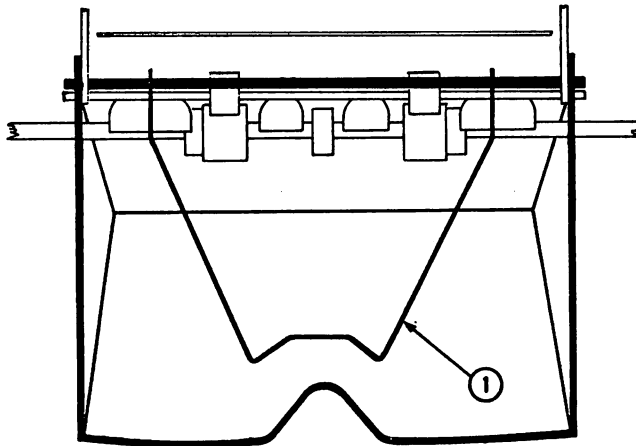
FIGURE 20 - LEFT PAPER GUIDE BRACKET



ITEM NO.	NOMENCLATURE	PART NO.
1	Pinch Roller Assembly	279-5113
2	Pinch Roller Rod	478-0392
3	Pinch Roller Bracket	451-4658

- a. The Pinch Rollers should rotate freely and be positioned on center to the stacker rollers.

FIGURE 21 - PINCH ROLLER - TOP VIEW



ITEM NO.	NOMENCLATURE	PART NO.
1	Stacker Wire	458-0529

- a. The Stacker wire should move freely at all times.

FIGURE 22 - STACKER AND STACKER WIRE

8. GENERAL FIELD INFORMATION

8.1 FIVE COMMON ALIGNMENT PROBLEMS

The following items should be checked during routine maintenance inspections to ensure the proper operation of the TSF.

A. Stretched Load and Feeder Spring

This may cause the paper to be fed crooked or the printer may time out before the paper has reached the photo-cell. Adjust as per Figure 16 in previous section.

B. Motor Drive Belt Too Tight

A motor drive belt that is too tight will load down the motor causing the platen motion to time out before the paper reaches the photo-cell. Adjust the motor drive shaft mounting bracket.

C. Gears Rubbing Against the Feeder Inner Walls

If the gears engaged by the motor drive belt rub against the inner walls of the feeder, motor load down can occur causing the platen motion to time out before the paper reaches the photocell. Adjust as per Figure 13 in previous section.

D. Improper Tripper Alignment

If the tripper is not properly aligned for the weight of the paper being used, more than one sheet of paper may be fed or the paper may be fed late, resulting in platen motion time out before the paper reaches the photocell. Adjust as per Figure 18 in previous section.

E. Platen Turns, Feed Motor Does Not Start

If the gap between the photocell and paper guide becomes too great, the platen will turn continuously but the paper motor will not start. Adjust the photocell gap until the situation is corrected. There is no set specification for this gap.

8.2 PHOTO CELL CHECK (Refer to 210-7447 schematic and Figure 20)

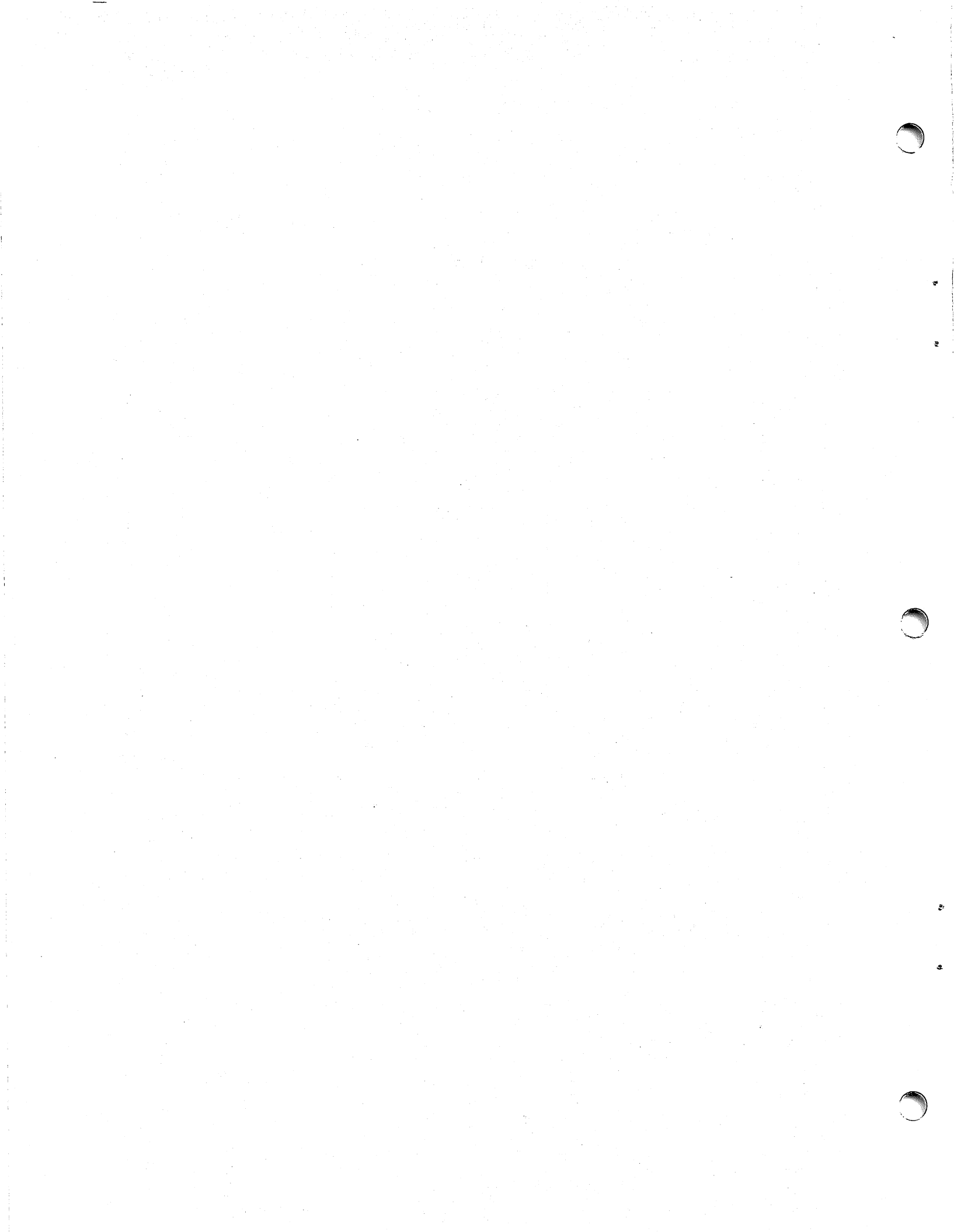
A defective photocell results in continuous platen motion with no paper feed--no activation of the TSF motor. To check the photocell, use an oscilloscope on pin 5 of IC 339 (210-7447). When the photocell is interrupted, pin 5 should be between 2.0 and 2.5 volts. When the photocell is open, pin 5 should be at 0.5 volts.

Broken leads to the photocell have been noted in some instances. If a defective photocell is suspected, ensure that a broken lead is not the problem before replacing the photocell.

8.3 REAR HOPPER PAPER FEED PROBLEM (Refer to 7448 and 7636 schematics)

If the TSF is unable to feed paper from the rear hopper, transistor Q4 on either the 7448 PCB of the 5581 (Diablo) printer or the 7636 PCB of the 5581W (Wang) printer may be defective. This transistor allows the TSF drive motor to operate in a counterclockwise direction permitting the TSF to feed paper from the rear hopper.

APPENDICES



APPENDIX A

BILL OF MATERIALS

ASSEMBLY PART NUMBER 177-9220-W - -
 ASSEMBLY DESCRIPTION TWIN SHT FDR (81W) 6868-4 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: *=TAGGED OUT OF KIT(PROD STR)

LEGEND

POSITION IN STRUCTURE	LEGEND	COMPONENT PART NUMBER	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
1	IN	187-9220-W	TWIN SHT FDR (81W)	6868-1	1.0000	EACH	
2	IN	000-0011	LABOR QUALITY CONTROL		1.4280		
2	IN	000-0021	LABOR PERIPHERAL SYSTEMS		7.1410		
2	IN	210-7447	PCA 928 PHOTO CELL AMPLIFIER		1.0000	EACH	
3	IN	000-0001	LABOR SUB-SYSTEMS		.8460		
3	IN	000-0011	LABOR QUALITY CONTROL		.2380		
3	IN	000-0021	LABOR PERIPHERAL SYSTEMS		.3440		
3	IN	220-0194	TWIN SHEET LED CABLE	86482-277 EC8843	1.0000	EACH	
4	IN	000-0004	SUB-SYSTEMS		.6260	EACH	
4	IN	000-0011	LABOR QUALITY CONTROL		.1250		
4	IN	375-2110-M4	SWITCH LED T1 #SDA-493 YEL DOT MOD	EC9989	1.0000	EACH	
4	FS	420-0072	4 COND 28GA SHIELDED CABLE PVC		1.5000	FEET	
4	FS	605-0003	TUBING #18 CLEAR	W70-77	.1600	FEET	
4	FS	605-0006	TUBING NBR 12 CLEAR		.0800	FEET	
4	IN	654-1004	#4 GROUND LUG		1.0000	EACH	
4	IN	654-1006	#6 GROUND LUG	EC9657	1.0000	EACH	
3	IN	220-0214	TWIN SHT I/O MOTOR CABLE	C6482-338 EC9969	1.0000	EACH	
4	IN	300-2010	CAP .001 UF 10% 100 V MYLAR		1.0000	EACH	
4	IN	331-1033	RES 33 OHM 1/2W 10% FIXED COMP		1.0000	EACH	
4	IN	350-2094-M	PLUG#6 PIN MODIFIED	B6868-533	1.0000	EACH	
5	IN	350-2094	6 PIN PLUG MINIATURE CABLE END		1.0000	EACH	
4	FS	420-0077	CABLE#3PR INDIV TWSTD & SHLD 24 AWG		4.1700	EACH	
4	P FS	600-1000	WIRE 22 GA BLACK		.2900	FEET	
5	P FS	600-1009	WIRE 22 GA WHITE		1.0000	FEET	
4	FS	605-0002	TUBING #15 CLEAR		.1900	FEET	
4	FS	605-0109	TUBING NO 6 CLEAR		.3300	FEET	
4	FS	654-0135-R	FASTON TERM 18-22 RED AMP2-350799-2	E10503	2.0000	EACH	
4	IN	654-1006	#6 GROUND LUG		2.0000	EACH	
3	IN	300-1903	CAP .01 UF +80-20% 25 V CERAMIC D	PATREL	1.0000	EACH	
3	IN	300-1930	.1 UF 50V +80-20% CERAMIC CAP(HIFRQ	EC9678	1.0000	EACH	
3	IN	300-4022	CAP 15.0 UF 20 V 10% TANT AXIAL		1.0000	EACH	
3	P FS	330-1033-4B	RES 33 OHM 1/4W 10% FIXED COMP	EC9678	1.0000	EACH	
4	IN *	330-1033	RES 33 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P FS	330-2012-4B	RES 120 OHM 1/4W 10% FIXED COMP	EC9249	1.0000	EACH	
4	FS *	330-2012	RES 120 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P FS *	330-3010-4B	RES 1K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
4	FS *	330-3010	RES 1K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	FS	330-4047	RES 47K OHM 1/4W 10% FIXED COMP	EC9166	1.0000	EACH	
3	P FS	330-5010-4B	RES 100K OHM 1/4W 10% FIXED COMP	EC9249	1.0000	EACH	
4	IN *	330-5010	RES 100K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	IN	333-0061	RES 9.09K OHM 1/8W 1% FIXED FILM	EC9249	1.0000	EACH	
3	IN	333-0688	RES 5.11K OHM 1/8W 1% FIXED FILM	EC9249	1.0000	EACH	
3	IN	376-0240	IC LM339 4 COMPARTOR	PATREL	1.0000	EACH	
3	IN	510-7447	PCB 928 PHOTO CELL AMPLIFIER		1.0000	EACH	

ASSEMBLY PART NUMBER 177-9220-W -
ASSEMBLY DESCRIPTION TUN SHT FDR (81W) 6868-4 1: P-PHANTOM; 2: ITEM MASTER DELY CODE; 3: *-TAGGED OUT OF KIT(PROD STR)

POSITION IN LEGEND	COMPONENT	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
STRUCTURE	1 2 3 PART NUMBER					
3	IN 654-1203-	GROMMET 1/2 ID FOR 5/8 HOLE	EC9184	1.0000	EACH	
2	IN 210-7448-	PCA 928 TWIN SHEET FEEDER CNTL		1.0000	EACH	
	IN 000-0001-	LABOR SUB-SYSTEMS		1.5070		
	IN 000-0011-	LABOR QUALITY CONTROL		.3240		
	IN 000-0021-	LABOR PERIPHERAL SYSTEMS		.1140		
3	IN 220-3057-	CABLE ASSY 5583 14P FLAT	C6482-14 EC6641	1.0000	EACH	
	IN 000-0004-	SUB-SYSTEMS		.0570	EACH	
4	IN 000-0011-	LABOR QUALITY CONTROL		.0110		
4	IN 350-0400-	14 PIN FLAT CABLE PLUG 3M 3406		2.0000	EACH	
4	FS 420-0042-	14 COND FLAT CABLE 3M 3365/14		.3700	FEET	
3	IN 300-1220-	CAP 220 PF 10% 500 V CERAMIC DISC	EC8192	2.0000	EACH	
3	IN 300-1900-	CAP .05 UF +80-20% 12 V CERAMIC D	EC8058	10.0000	EACH	
3	IN 300-1903-	CAP .01 UF +80-20% 25 V CERAMIC D	EC8641	1.0000	EACH	
3	IN 300-1906-	CAP .001 UF 10% 500 V CERAMIC DISC	EC8191	1.0000	EACH	
3	IN 300-1930-	.1 UF 50V +80-20% CERAMIC CAP(HIFRQ	EC8191	2.0000	EACH	
3	IN 300-4016-	CAP .3.3 UF 15 V 10% TANT AXIAL	EC8641	3.0000	EACH	
3	IN 300-4022-	CAP 15.0 UF 20 V 10% TANT AXIAL		2.0000	EACH	
3	IN 300-4045-	CAP 220 UF TANT 15 VDC 10%	EC8641	1.0000	EACH	
3	P FS * 330-1047-48-	RES 47 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
4	FS * 330-1047-	RES 47 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P FS * 330-2010-48-	RES 100 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
4	FS * 330-2010-	RES 100 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	IN 330-2047-	RES 470 OHM 1/4W 10% FIXED COMP	EC8191	2.0000	EACH	
3	P FS * 330-2082-48-	RES 820 OHM 1/4W 10% FIXED COMP		2.0000	EACH	
4	FS * 330-2082-	RES 820 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P FS * 330-3010-48-	RES 1K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
4	FS * 330-3010-	RES 1K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P FS * 330-3022-48-	RES 2.2K OHM 1/4W 10% FIXED COMP		5.0000	EACH	
4	FS * 330-3022-	RES 2.2K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P FS * 330-3047-48-	RES 4.7K OHM 1/4W 10% FIXED COMP		4.0000	EACH	
4	IN * 330-3047-	RES 4.7K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P FS 330-3056-48-	RES 5.6K OHM 1/4W 10% FIXED COMP	EC9388	1.0000	EACH	
4	FS * 330-3056-	RES 5.6K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P FS * 330-4010-48-	RES 10K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
4	FS * 330-4010-	RES 10K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P FS * 330-4033-48-	RES 33K OHM 1/4W 10% FIXED COMP	EC9388	3.0000	EACH	
4	FS * 330-4033-	RES 33K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P FS * 330-4039-48-	RES 39K OHM 1/4W 10% FIXED COMP	EC8641	3.0000	EACH	
4	FS * 330-4039-	RES 39K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	IN 331-2056-	RES 560 OHM 1/2W 10% FIXED COMP		1.0000	EACH	

ASSEMBLY PART NUMBER 177-9220-W - -
 ASSEMBLY DESCRIPTION TWIN SHT FDR (81W) LEGEND
 6868-4 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: *TAGGED OUT OF KIT(PROD STR)

POSITION IN LEGEND	COMPONENT	DESCRIPTION	E C N	QUANTITY	U/M	IML
STRUCTURE	1 2 3 PART NUMBER			PER ASSY		
3	IN 375-0017-	TSTR 2N3014 360MW 40V SH NPN S 52		1.0000	EACH	
3	IN 375-1017-	TSTR 2N2906A 1.8W 60V SH PNP S 18		1.0000	EACH	
3	IN 375-1052-	TRANSISTOR 2N6387 (PLASTIC)		1.0000	EACH	
3	IN 375-1053-	TRANSISTOR RCA8203A (PLASTIC)		1.0000	EACH	
3	IN 375-9004-	TRANSIPAD TO-18 (SMALL)		2.0000	EACH	
3	IN 376-0002-	IC 7400N 4 2 IN POS NAND GATE		1.0000	EACH	
3	IN 376-0006-	IC 7474N 2 D EDGE TRIG FLIP-FLOP		1.0000	EACH	
3	IN 376-0010-	IC 7404N HEX INVERTER		1.0000	EACH	
3	IN 376-0081-	IC 7408 4 2 IN POS AND GATE		2.0000	EACH	
3	IN 376-0093-	IC 7432 4 2 IN OR GATE		1.0000	EACH	
3	IN 376-0104-	IC 9602 2 RETRIG RESET MONOSTBL MVB		3.0000	EACH	
3	IN 376-0179-	IC 74368 HEX BUS DR W/3 STATE OUT		1.0000	EACH	
3	IN 376-0240-	IC LM339 4 COMPARATOR	PATREL	1.0000	EACH	
3	IN 376-9008-	IC 16 PIN TEKNA #4330	EC8641	1.0000	EACH	
3	P FS * 380-1001-4R-	D035 SIL DIODE 30V, 100MA AT 1V .48		2.0000	EACH	
4	FS 380-1001-R -	D035 SIL DIODE 30V, 100MA AT 1V T&R		1.0000	EACH	
3	IN 380-2047-	D10 ZEN 1N750 A 4.7V 400MW S D0-7		1.0000	EACH	
3	IN 380-3008-	A15A RECTIFIER		4.0000	EACH	
3	FS 380-4000-	D10 1N4004 400V 1A RECT S D041		2.0000	EACH	
3	IN 510-7448-	PCB 928 TWIN SHEET FEEDER CNTL		1.0000	EACH	
3	IN 650-3087-	SCR 6-32 1/4 PAN SLOT MS NYL EC8641		2.0000	EACH	
3	IN 652-3002-	NUT 6-32UNC HEX REG PAT NYLON EC8641		2.0000	EACH	
3	IN 654-1186-	6 POS PIN HEADER AMP 1-380999-0		1.0000	EACH	
3	IN 654-1193-	3 POS P.C.HEADER ASSY AMP 350210-1	EC8641	1.0000	EACH	
2	IN 220-0195-	TWIN SHEET CA & RRKT ASSY B6482-278		1.0000	EACH	
3	IN 000-0004-	SUB-SYSTEMS		4.330	EACH	
3	IN 000-0011-	LABOR QUALITY CONTROL		.0870		
3	IN 350-2095-	6 POS SOCKET CONN MINIATURE PNL END		1.0000	EACH	
3	IN 451-4676-	BRACKET,CONN D6843-145		1.0000	EACH	
3	P FS 600-2000-	WIRE 24 GA BLACK UL		7.5000	FEET	
4	FS 600-2009-	WIRE 24 GA WHITE UL		1.0000	FEET	
3	P FS 600-2002-	WIRE 24 GA RED UL		2.5000	FEET	
4	FS 600-2009-	WIRE 24 GA WHITE UL		1.0000	FEET	
3	P FS 600-2005-	WIRE 24 GA GREEN UL	W/OFF-76	2.5000	FEET	
4	FS 600-2009-	WIRE 24 GA WHITE UL		1.0000	FEET	
3	FS 600-2009-	WIRE 24 GA WHITE UL		2.5000	FEET	
3	FS 605-0006-	TUBING NBR 12 CLEAR		2.500	FEET	
3	FS 605-1004-	CABLE TYE, PAN-TY PLTIN-M		5.0000	EACH	
3	IN 650-2123-	4-40 X 3/8 RND HD PHL MS BK OX		1.0000	EACH	
3	FS 654-1165-R -	SOCKET 30-22 GA (REEL)AMP 3500078-4		6.0000	EACH	
3	IN 654-1185-	6 POS SOC HOUSING AMP 1-480270-0		1.0000	EACH	
3	IN 725-0589-M -	COVER REAR RH DIABLO MOD D6843-144	EC8918	1.0000	EACH	
2	IN 279-0325-	5538 LOAD LEVER PREP PL6868-10		1.0000	EACH	
3	IN 000-0011-	LABOR QUALITY CONTROL		.0020		
3	IN 000-0021-	LABOR PERIPHERAL SYSTEMS		.0120		
3	IN 458-0538-	LEVER,LOAD D6868-127		1.0000	EACH	

ASSEMBLY PART NUMBER 177-2220-W -- LEGEND
 ASSEMBLY DESCRIPTION TWIN SHT FDR (81W) 6868-4 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: *TAGGED OUT OF KIT(PROD STR)

POSITION IN LEGEND	COMPONENT	DESCRIPTION	E C N	QUANTITY	U/M	IML
STRUCTURE	1 2 3 PART NUMBER			PER ASSY		
3	IA 465-1113-	HUB,LOAD LEVER B6868-137		1.0000	EACH	
2	IA 279-0326-	5538 SIDE FRAME PREP RH PL6868-11		1.0000	EACH	
3	IA 000-0011-	LABOR QUALITY CONTROL		.0360		
3	IA 000-0021-	LABOR PERIPHERAL SYSTEMS		.1800		
3	IA 458-0542-	FRAME,SIDE RH D6868-140		1.0000	EACH	
3	IA 461-3371-	STUD,PINCH ROLLER PIVOT B6868-131		1.0000	EACH	
3	IA 461-3372-	STUD,DRIVER CLSTER PULLEY B6868-111		1.0000	EACH	
3	IA 465-0268-	BEARING, SELF-ALIGN 5/16" I.D.		1.0000	EACH	
3	IA 651-1666-	PIN GROOVE .187 DIA .625 LG ST		1.0000	EACH	
3	IA 651-1667-	PIN GROOVE .125 DIA .625 LG ST		1.0000	EACH	
2	IA 279-0327-	5538 SIDE FRAME PREP LH PL6868-12		1.0000	EACH	
3	IA 000-0011-	LABOR QUALITY CONTROL		.0260		
3	IA 000-0021-	LABOR PERIPHERAL SYSTEMS		.1290		
3	IA 458-0543-	FRAME,SIDE LH D6868-140		1.0000	EACH	
3	IA 461-3371-	STUD,PINCH ROLLER PIVOT B6868-131		1.0000	EACH	
3	IA 465-0268-	BEARING, SELF-ALIGN 5/16" I.D.		1.0000	EACH	
3	IA 478-0404-	PIVOT,LOAD LEVER B6868-126		1.0000	EACH	
3	IA 651-1666-	PIN GROOVE .187 DIA .625 LG ST		1.0000	EACH	
3	IA 651-1667-	PIN GROOVE .125 DIA .625 LG ST		1.0000	EACH	
3	IA 651-1668-	PIN GROOVE .125 DIA 1.00 LG ST		1.0000	EACH	
2	IA 279-0328-	5538 OUTSIDE FRM PREP LH PL6868-13		1.0000	EACH	
3	IA 000-0011-	LABOR QUALITY CONTROL		.0110		
3	IA 000-0021-	LABOR PERIPHERAL SYSTEMS		.0550		
3	IA 451-4683-	BRKT,HINGE LH 5538 B6868-SK603 EC8918		1.0000	EACH	
3	IA 458-0540-	OUTSIDE FRAME (LH) D6868-109		1.0000	EACH	
3	IA 465-0268-	BEARING, SELF-ALIGN 5/16" I.D.		1.0000	EACH	
3	IA 478-0394-	STUD, RELEASE LEVER B6868-106		1.0000	EACH	
3	IA 651-0465-	RIVET,CAP,NI PLATE #D3995 EC8918		1.0000	EACH	
3	IA 651-0466-	RIVET,SEMI-TUB .1420 .375L NI PLT EC8918		1.0000	EACH	
3	IA 653-3002-	WASH 6 .141ID .2500D .062 FL NYL EC8918		1.0000	EACH	
2	IA 279-0329-	5538 OUTSIDE FRM PREP RH PL6868-14		1.0000	EACH	
3	IA 000-0011-	LABOR QUALITY CONTROL		.0140		
3	IA 000-0021-	LABOR PERIPHERAL SYSTEMS		.0710		
3	IA 451-4682-	BRKT,HINGE RH 5538 B6868-SK603 EC8918		1.0000	EACH	
3	IA 458-0541-	OUTSIDE FRAME (R.H.) D6868-109		1.0000	EACH	
3	IA 465-0268-	BEARING, SELF-ALIGN 5/16" I.D.		1.0000	EACH	
3	IA 478-0394-	STUD, RELEASE LEVER B6868-106		1.0000	EACH	
3	IA 651-0465-	RIVET,CAP,NI PLATE #D3995 EC8918		1.0000	EACH	
3	IA 651-0466-	RIVET,SEMI-TUB .1420 .375L NI PLT EC8918		1.0000	EACH	
3	IA 653-3002-	WASH 6 .141ID .2500D .062 FL NYL EC8918		1.0000	EACH	
2	IA 279-0330-	5538 STACKER SHAFT ASSY PL6868-15		1.0000	EACH	
3	IA 000-0011-	LABOR QUALITY CONTROL		.0150		
3	IA 000-0021-	LABOR PERIPHERAL SYSTEMS		.0730		
3	IA 465-0422-	COLLAR,KICKER B6868-136 EC8689		2.0000	EACH	
3	IA 478-0395-	SHAFT, STACKER C6868-119		1.0000	EACH	
3	IA 478-0403-	KICKER,TWIN SHT HEX NI B6868-129		1.0000	EACH	
3	IA 478-0407-	ROLLER,STACKER (ASSY)B6868-158		2.0000	EACH	

ASSEMBLY PART NUMBER 177-9220-W --
 ASSEMBLY DESCRIPTION TUN SHT FDR (81W) 6868-4 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: **TAGGED OUT OF KIT (PROD STR)

LEGEND

POSITION IN STRUCTURE	LEGEND	COMPONENT PART NUMBER	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
3	IN	650-6061-	10-32 X 3/16 KNURL CUP PT. NYLOK	EC8918	2.0000	EACH	
2	IN	279-0331-	5538 DRIVE MOTOR ASSY	PL6868-16	1.0000	EACH	
3	IN	000-0011-	LABOR QUALITY CONTROL		.0080		
3	IN	000-0021-	LABOR PERIPHERAL SYSTEMS		.0420		
3	IN	400-0044-	MOTOR, PMDC C6868-163		1.0000	EACH	
3	IN	478-0397-	PULLEY 080 MINI PITCH 15T		1.0000	EACH	
3	IN	650-2043-	4-40X1/8 KNURL CUP PT BK OX SET SCR	EC8918	2.0000	EACH	
2	IN	279-0332-	5538 DRIVE ROLLER ASSY	PL6868-17	1.0000	EACH	
3	IN	000-0011-	LABOR QUALITY CONTROL		.0950		
3	IN	000-0021-	LABOR PERIPHERAL SYSTEMS		.4760		
3	IN	449-0196-	GEAR, DRIVER SHAPT C6868-115		1.0000	EACH	
3	IN	449-0204-	DRIVE, ROLLER ASSY C6868-102		2.0000	EACH	
4	FS	449-0200-	HUB, DRIVE ROLLER 1	D6868-114	1.0000	EACH	
3	IN	451-4659-	BRKT, DRIVE ROLLER C6868-120		1.0000	EACH	
3	IN	461-3359-	ROD, DRIVER PIVOT	C6868-100	1.0000	EACH	
3	IN	461-3360-	SHAFT, DRIVE ROLLER	B6868-116	1.0000	EACH	
3	IN	462-0397-	SHIM, DRIVE ROLLER	B6868-185	4.0000	EACH	
3	IN	465-0422-	COLLAR, KICKER	B6868-136	3.0000	EACH	E10411
3	IN	465-0740-	BEARING, 3125 ID .078 LG 2 FLG NYL	EC8918	4.0000	EACH	
3	IN	465-1681-	SPRING, CLUTCH B6868-160		1.0000	EACH	
3	IN	651-1641-	PIN, DOWELL .0938 DIA.	.625 LG SS	3.0000	EACH	EC8918
3	IN	653-6025-	WASHER, FLT .3281DX.5620DX.032 THKSS	EC9405	2.0000	EACH	
3	IN	660-0591-	PAD, SLIP CLUTCH COAK	B6868-101	1.0000	EACH	
2	IN	279-5113-	ROLLER ASSY 6631-13		2.0000	EACH	
3	IN	000-0011-	LABOR QUALITY CONTROL		.0040		
3	IN	000-0021-	LABOR PERIPHERAL SYSTEMS		.0220		
3	IN	465-1057-	HUB, PAPER BAIL ROLLER(81)B6631-207		2.0000	EACH	
3	IN	465-1058-	ROLLER, PAPER BAIL(81)B6631-220		1.0000	EACH	
3	IN	656-0108-	RING, BAIL ROLLER(81)B6631-219		1.0000	EACH	
2	IN	445-9058-	COVER, EXTRUSION B6815-904		1.0000	FEET	
2	IN	449-0027-	TD 23 PUSH BUTTON B5900-564		1.0000	EACH	
2	IN	449-0169-	RETAINER, NUT(81)(MOLDED)C6631-262	E10411	4.0000	EACH	
2	IN	449-0194-	PULLEY, STACKER DRIVE C6868-143		1.0000	EACH	
2	IN	449-0195-	GEAR, IDLER C6868-113		1.0000	EACH	
2	IN	449-0197-	PULLEY, CLUSTER DRIVER C6868-110		1.0000	EACH	
2	IN	449-0198-	PULLEY, STACKER DRIVE C6868-104		1.0000	EACH	
2	IN	449-0199-	PULLEY, STACKER CLUSTER	C6868-103	1.0000	EACH	
2	IN	449-0201-	CAP, LOAD LEVER C6868-128		1.0000	EACH	
2	IN	449-0202-	CAP, END (SMALL)RH D6868-500		1.0000	EACH	
2	IN	449-0203-	CAP, END (SMALL)LH D6868-500		1.0000	EACH	
2	IN	449-0205-	CAP, END (LARGE)LH E6868-501		1.0000	EACH	
2	IN	449-0206-	CAP, END (LARGE)RHE6868-501		1.0000	EACH	
2	IN	451-0244-	LEG, REAR C6868-125		1.0000	EACH	
2	IN	451-1956-	BRACE, SIDE FRAME 5538	C6868-183	1.0000	EACH	E10411
2	IN	451-2177-	COVER, TOP CENTER B6868-149		1.0000	EACH	
2	IN	451-2932-	COVER, STACKER D6868-165		1.0000	EACH	
2	IN	451-2934-	COVER, RH(MACH)MDL 81W	C6868-503	1.0000	EACH	

ASSEMBLY PART NUMBER 177-9220-W --
 ASSEMBLY DESCRIPTION TWIN SHT FDR (81W) LEGEND 6868-4 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: *-TAGGED OUT OF KIT(PROD STR)

POSITION IN STRUCTURE	LEGEND	COMPONENT PART NUMBER	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
2	IN	451-2937-	COVER,LH(MACH)MDL 81W C6868-502		1.0000	EACH	
2	IN	451-4655-	BRACKET,ANTI-PIVOT B6868-138		1.0000	EACH	
2	IN	451-4656-	BRACKET,TRIPPER R.H. B6868-117		1.0000	EACH	
2	IN	451-4657-	BRACKET,TRIPPER L.H. B6868-117		1.0000	EACH	
2	IN	451-4658-	BRKT, PINCH ROLLER C6868-130		1.0000	EACH	
2	IN	451-4667-	BRACKET EXTERIOR COVER B6868-139		1.0000	EACH	
2	IN	452-0110-	PLATE REST REAR D6868-147		1.0000	EACH	
2	IN	452-2170-	PLATE,FRONT REST C6868-145		1.0000	EACH	
2	IN	452-2173-	PLATE COVER NUT B6868-164		1.0000	EACH	
2	IN	452-2174-	PLATE FEEDER D6868-144		1.0000	EACH	
2	IN	452-4064-	PAPER GUIDE, STACKER C6868-146		1.0000	EACH	
2	IN	452-4066-	PAPER GUIDE,L.H.WELDMENT C6868-162		1.0000	EACH	
2	IN	452-4067-	PAPER GUIDE,R.H.WELDMENT C6868-161		1.0000	EACH	
2	IN	458-0529-	WIRE, STACKER C6868-133		1.0000	EACH	
2	IN	458-0536-	LEVER,RELEASE-R.H. C6868-108		1.0000	EACH	
2	IN	458-0537-	LEVER,RELEASE-L.H. C6868-108		1.0000	EACH	
2	IN	458-0544-	STACKER E6868-141		1.0000	EACH	
2	IN	458-0545-	STAND,TWIN SHT FDR /81W D6868-168		1.0000	EACH	
2	IN	458-0548-	WALL, HOPPER D6868-170		2.0000	EACH	
2	IN	461-3370-	STUD,HOPPER WALL B6868-153		1.0000	EACH	
2	IN	461-3373-	STUD,STAND B6868-166		2.0000	EACH	
2	IN	461-3374-	STUD,HOPPER WALL CAM B6868-169		2.0000	EACH	
2	IN	461-3411-	ROD,PIVOT 5538 B6868-179 E10411		1.0000	EACH	
2	IN	465-0707-	BEARING .250 ID .140 LG 2 FLG NYL EC9189		8.0000	EACH	
2	IN	465-1679-	SPRING,RELEASE LEVER B6868-107		1.0000	EACH	
2	IN	465-1682-	SPRING,HOPPER WALL B6868-167		2.0000	EACH	
2	IN	478-0338-	NUT,BASE TRAY MTG(81)B66631-236 E10411		4.0000	EACH	
2	IN	478-0395-	SHAFT, STACKER C6868-119		1.0000	EACH	
2	IN	478-0397-	PULLEY 080 MINI PITCH 15T		1.0000	EACH	
2	IN	478-0398-	ROLLER, FRICTION B6868-159		1.0000	EACH	
2	IN	478-0401-	SPAN EXTRUSION 8ID D6868-151 E10273		1.0000	EACH	
2	IN	478-0403-	KICKER,TWIN SHT HEX NI B6868-129		1.0000	EACH	
2	IN	478-0407-	ROLLER,STACKER (ASSY)B6868-158		1.0000	EACH	
2	IN	478-0439-	SCREW,JACK 5538 B6868-178 EC9189		2.0000	EACH	
2	IN	650-0005-	SCR 1-64X1/2 SLT FLT HD SS		1.0000	EACH	
2	IN	650-3136-	SCR 6-32 3/8 HEX SET CUP PT NYLOK E10411		2.0000	EACH	
2	IN	650-4326-	SCR 8-32 1.00 HEX HD MS ST E10411		2.0000	EACH	
2	IN	650-4681-	SCR 8-16 5/8 PHL FLT H SLF TP PLAST		2.0000	EACH	
2	IN	651-1728-	RTNR RING .298 SFT DIA EXT GRIP-ON EC9189		8.0000	EACH	
2	IN	652-0588-	NUT 1-64 UNC HEX REG PAT SS		2.0000	EACH	
2	IN	660-0597-	PAD,FEEDER PLATE B6868-155		1.0000	EACH	

ASSEMBLY PART NUMBER: 177-9220-WP-
 ASSEMBLY DESCRIPTION: TWIN SHT FDR (81WMP)
 LEGEND
 6868-5 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: *-TAGGED OUT OF KIT(PROD STR)

POSITION IN STRUCTURE	LEGEND	COMPONENT PART NUMBER	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
1	IN	187-9220-WP	TWIN SHT FDR (81WMP)	6868-2	1.0000	EACH	
2	IN	000-0011	LABOR QUALITY CONTROL		1.4280		
2	IN	000-0021	LABOR PERIPHERAL SYSTEMS		7.1410		
2	IN	210-7447	PCA 928 PHOTO CELL AMPLIFIER		1.0000	EACH	
3	IN	000-0001	LABOR SUB-SYSTEMS		.8460		
3	IN	000-0011	LABOR QUALITY CONTROL		.2380		
3	IN	000-0021	LABOR PERIPHERAL SYSTEMS		.3440		
3	IN	220-0194	TWIN SHEET LED CABLE	B6482-277 EC8843	1.0000	EACH	
4	IN	000-0004	SUB-SYSTEMS		.6260	EACH	
4	IN	000-0011	LABOR QUALITY CONTROL		.1250		
4	IN	375-2110-M4	SWITCH LED T1 #SDA-493 YEL DOT MOD	EC9989	1.0000	EACH	
4	F	420-0072	4 COND 28GA SHIELDED CABLE PVC		1.5000	FEET	
4	F	605-0003	TUBING #18 CLEAR	W/O-77	.1600	FEET	
4	F	605-0006	TUBING NBR 12 CLEAR		.0800	FEET	
4	IF	654-1004	#4 GROUND LUG 1414-4		1.0000	EACH	
4	IF	654-1006	#6 GROUND LUG	EC9657	1.0000	EACH	
3	IF	220-0214	TWIN SHT I/O MOTOR CABLE	C6482-338 EC9969	1.0000	EACH	
4	IF	300-2010	CAP .001 UF 10% 100 V MYLAR		1.0000	EACH	
4	IF	331-1033	RES 33 OHM 1/2W 10% FIXED COMP		1.0000	EACH	
4	IF	350-2094-M	PLUG#6 PIN MODIFIED	B6868-833	1.0000	EACH	
5	IF	350-2094	6 PIN PLUG MINIATURE CABLE END		1.0000	EACH	
4	F	420-0077	CABLE#3PR INDIV TWSTD & SHLD 24 AWG		4.1700	EACH	
4	P F	600-1000	WIRE 22 GA BLACK		.2900	FEET	
5	P F	600-1809	WIRE 22 GA WHITE		1.0000	FEET	
4	F	605-0002	TUBING #15 CLEAR		.1900	FEET	
4	F	605-0109	TUBING NO 6 CLEAR		.3300	FEET	
4	F	654-0135-R	FASION TERM 18-22 RED AMP2-350799-2	E10503	2.0000	EACH	
4	IF	654-1006	#6 GROUND LUG		2.0000	EACH	
3	IN	300-1903	CAP .01 UF +80-20% 25 V CERAMIC D	PATREL	1.0000	EACH	
3	IN	300-1930	.1 UF 50V +80-20% CERAMIC CAP(HIFRQ	EC9678	1.0000	EACH	
3	IN	300-4022	CAP 15.0 UF 20 V 10% TANT AXIAL		1.0000	EACH	
3	P F	330-1033-4B	RES 33 OHM 1/4W 10% FIXED COMP	EC9678	1.0000	EACH	
4	IN *	330-1033	RES 33 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P F	330-2012-4B	RES 120 OHM 1/4W 10% FIXED COMP	EC9249	1.0000	EACH	
4	F *	330-2012	RES 120 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	P F	330-3010-4B	RES 1K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
4	F *	330-3010	RES 1K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	F	330-4047	RES 47K OHM 1/4W 10% FIXED COMP	EC9166	1.0000	EACH	
3	P F	330-5010-4B	RES 100K OHM 1/4W 10% FIXED COMP	EC9249	1.0000	EACH	
4	IN *	330-5010	RES 100K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	IF	333-0061	RES 9.09K OHM 1/8W 1% FIXED FILM	EC9249	1.0000	EACH	
3	IF	333-0088	RES 5.11K OHM 1/8W 1% FIXED FILM	EC9249	1.0000	EACH	
3	IF	376-0240	IC LM339 4 COMPARTOR	PATREL	1.0000	EACH	
3	IF	510-7447	PCB 928 PHOTO CELL AMPLIFIER		1.0000	EACH	

ASSEMBLY PART NUMBER: 177-9220-WP-
 ASSEMBLY DESCRIPTION: TWIN SHT FDR (81WUP) 6868-5
 LEGEND
 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: *=TAGGED OUT OF KIT(PROD STR)

POSITION IN STRUCTURE	LEGEND	COMPONENT PART NUMBER	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
3	IP	654-1203-	GROMMET 1/2 ID FOR 5/8 HOLE	EC9184	1.0000	EACH	
2	IP	210-7448-	PCA 928 TWIN SHEET FEEDER CNTL		1.0000	EACH	
3	IP	000-0001-	LABOR SUB-SYSTEMS		1.5070	EACH	
3	IP	000-0011-	LABOR QUALITY CONTROL		.3240		
3	IP	000-0021-	LABOR PERIPHERAL SYSTEMS		.1140		
3	IP	220-3057-	CABLE ASSY 5583 14P FLAT C6482-14	EC8641	1.0000	EACH	
4	IP	000-0004-	SUB-SYSTEMS		.0570	EACH	
4	IP	000-0011-	LABOR QUALITY CONTROL		.0110		
4	IP	000-0011-	LABOR QUALITY CONTROL		2.0000	EACH	
4	IP	350-0400-	14 PIN FLAT CABLF PLUG 3M 3406		.3700	FEET	
4	IP	420-0042-	14 COND FLAT CABLE 3M 3365/14				
3	IP	300-1220-	CAP 220 PF 10% 500 V CERAMIC DISC	EC8192	2.0000	EACH	
3	IP	300-1900-	CAP .05 UF +80-20% 12 V CERAMIC D	EC8058	10.0000	EACH	
3	IP	300-1903-	CAP .01 UF +80-20% 25 V CERAMIC D	EC8641	1.0000	EACH	
3	IP	300-1906-	CAP .001 UF 10% 500 V CERAMIC DISC	EC8191	1.0000	EACH	
3	IP	300-1930-	.1 UF 50V +80-20% CERAMIC CAP(HIFRO)	EC8191	2.0000	EACH	
3	IP	300-4016-	CAP 3.3 UF 15 V 10% TANT AXIAL	EC8641	2.0000	EACH	
3	IP	300-4022-	CAP 15.0 UF 20 V 10% TANT AXIAL		3.0000	EACH	
3	IP	300-4045-	CAP 220 UF TANT 15 VDC 10%	EC8641	2.0000	EACH	
3	PF *	330-1047-4B-	RES 47 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
4	PF *	330-1047-	RES 47 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	PF *	330-2010-4B-	RES 100 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
4	PF *	330-2010-	RES 100 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	IP	330-2047-	RES 470 OHM 1/4W 10% FIXED COMP	EC8191	2.0000	EACH	
3	PF *	330-2082-4B-	RES 820 OHM 1/4W 10% FIXED COMP		2.0000	EACH	
4	PF *	330-2082-	RES 820 OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	PF *	330-3010-4B-	RES 1K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
4	PF *	330-3010-	RES 1K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	PF *	330-3022-4B-	RES 2.2K OHM 1/4W 10% FIXED COMP		5.0000	EACH	
4	PF *	330-3022-	RES 2.2K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	PF *	330-3047-4B-	RES 4.7K OHM 1/4W 10% FIXED COMP		4.0000	EACH	
4	IP *	330-3047-	RES 4.7K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	PF *	330-3056-4B-	RES 5.6K OHM 1/4W 10% FIXED COMP	EC9388	1.0000	EACH	
4	PF *	330-3056-	RES 5.6K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	PF *	330-4010-4B-	RES 10K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
4	PF *	330-4010-	RES 10K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	PF *	330-4033-4B-	RES 33K OHM 1/4W 10% FIXED COMP	EC9388	3.0000	EACH	
4	PF *	330-4033-	RES 33K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	PF *	330-4039-4B-	RES 39K OHM 1/4W 10% FIXED COMP	EC8641	3.0000	EACH	
4	PF *	330-4039-	RES 39K OHM 1/4W 10% FIXED COMP		1.0000	EACH	
3	IP	331-2056-	RES 560 OHM 1/2W 10% FIXED COMP		1.0000	EACH	

ASSEMBLY PART NUMBER 177-9220-WP- -
 ASSEMBLY DESCRIPTION TWN SHT FDR (81WPP) 6868-5 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: *=TAGGED OUT OF KIT(PROD STR)

POSITION IN STRUCTURE	LEGEND	COMPONENT PART NUMBER	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
3	IN	375-0017-	ISTR 2N3014 360MW 40V SH NPN S 52		1.0000	EACH	
3	IN	375-1017-	TSIR 2N2906A 1.8W 60V SH PNP S 18		1.0000	EACH	
3	IN	375-1052-	TRANSISTOR 2N6387 (PLASTIC)		1.0000	EACH	
3	IN	375-1053-	TRANSISTOR RCA8203A (PLASTIC)		1.0000	EACH	
3	IN	375-9004-	TRANSIPAD TO-18 (SMALL)		2.0000	EACH	
3	IN	376-0002-	IC 7400N 4 2 IN POS NAND GATE		1.0000	EACH	
3	IN	376-0006-	IC 7474N 2 D EDGE TRIG FLIP-FLOP		1.0000	EACH	
3	IN	376-0010-	IC 7404N HEX INVERTER		1.0000	EACH	
3	IN	376-0081-	IC 7408 4 2 IN POS AND GATE		2.0000	EACH	
3	IN	376-0093-	IC 7432 4 2 IN OR GATE		1.0000	EACH	
3	IN	376-0104-	IC 9602 2 RETRIC RESET MONOSTBL MVB		3.0000	EACH	
3	IN	376-0179-	IC 74368 HEX BUS DR W/3 STATE OUT		1.0000	EACH	
3	IN	376-0240-	IC LM339 4 COMPARTOR	PATREL	1.0000	EACH	
3	IN	376-9008-	IC 16 PIN TEKNA #4330	EC8641	1.0000	EACH	
3	P FS	* 380-1001-4B-	D035 SIL DIODE 30V, 100MA AT 1V .4B		2.0000	EACH	
4	FS	380-1001-R-	D035 SIL DIODE 30V, 100MA AT 1V T&R		1.0000	EACH	
3	IN	380-2047-	D10 ZEN 1N750 A 4.7V 400MW S D0-7		1.0000	EACH	
3	IN	380-3008-	A15A RECTIFIER		4.0000	EACH	
3	FS	380-4000-	D10 1N4004 400V 1A RECT S D041		2.0000	EACH	
3	IN	510-7448-	PCB 928 TWIN SHEET FEEDER CNTL		1.0000	EACH	
3	IN	650-3087-	SCR 6-32 1/4 PAN SLOT MS NYL EC8641		2.0000	EACH	
3	IN	652-3002-	NUT 6-32UNC HEX REG PAT NYLON EC8641		2.0000	EACH	
3	IN	654-1186-	6 POS PIN HEADER AMP 1-380995-0	EC8641	1.0000	EACH	
3	IN	654-1193-	3 POS P.C.HEADER ASSY AMP 350210-1	EC8641	1.0000	EACH	
2	IN	220-0195-	TWIN SHEET CA & BRKT ASSY B6482-278		1.0000	EACH	
3	IN	000-0004-	SUB-SYSTEMS		.4330	EACH	
3	IN	000-0011-	LABOR QUALITY CONTROL		.0870	EACH	
3	IN	350-2095-	6 POS SOCKET CONN MINIATURE PNL END		1.0000	EACH	
3	IN	451-4676-	BRACKET+CONN D6843-145		1.0000	EACH	
3	P FS	600-2000-	WIRE 24 GA BLACK UL		7.5000	FEET	
4	FS	600-2009-	WIRE 24 GA WHITE UL		1.0000	FEET	
3	P FS	600-2002-	WIRE 24 GA RED UL		2.5000	FEET	
4	FS	600-2009-	WIRE 24 GA WHITE UL		1.0000	FEET	
3	P FS	600-2005-	WIRE 24 GA GREEN UL W/OFF-76		2.5000	FEET	
4	FS	600-2009-	WIRE 24 GA WHITE UL		1.0000	FEET	
3	F	600-2009-	WIRE 24 GA WHITE UL		2.5000	FEET	
3	F	605-0006-	TUBING NBR 12 CLEAR		.2500	FEET	
3	F	605-1004-	CABLE TYP, PAN-TY PLTIM-M		5.0000	EACH	
3	IF	650-2123-	4-40 X 3/8 RND HD PHL MS BK OX		1.0000	EACH	
3	FS	654-1165-R	SOCKET 30-22 GA(REEL)AMP 3500078-4		6.0000	EACH	
3	IN	654-1185-	6 POS SOC HOUSING AMP 1-480270-0		1.0000	EACH	
3	IN	725-0589-M	COVER REAR RH DIABLO MOD D6843-144 EC8918		1.0000	EACH	
2	IF	279-0325-	5538 LOAD LEVER PREP PL6868-10		1.0000	EACH	
3	IF	000-0011-	LABOR QUALITY CONTROL		.0020	EACH	
3	IF	000-0021-	LABOR PERIPHERAL SYSTEMS		.0120	EACH	
3	IF	458-0538-	LEVER+LOAD D6868-127		1.0000	EACH	

ASSEMBLY PART NUMBER 177-9220-WP- -- LEGEND
 ASSEMBLY DESCRIPTION TWIN SHT FDR (81WMP) 6868-5 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: *=TAGGED OUT OF KIT(PROD STR)

POSITION IN LEGEND STRUCTURE	LEGEND 1 ; 3	COMPONENT PART NUMBER	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
3	IN	465-1113-	HUB,LOAD LEVER B6868-137		1.0000	EACH	
2	IN	279-0326-	5538 SIDE FRAME PREP RH PL6868-11		1.0000	EACH	
3	IN	000-0011-	LABOR QUALITY CONTROL		.0360		
3	IN	000-0021-	LABOR PERIPHERAL SYSTEMS		.1800		
3	IN	458-0542-	FRAME,SIDE RH D6868-140		1.0000	EACH	
3	IN	461-3371-	STUD,PINCH ROLLER PIVOT B6868-131		1.0000	EACH	
3	IN	461-3372-	STUD,DRIVER CLSTER PULLEY B6868-111		1.0000	EACH	
3	IN	465-0268-	BEARING, SELF-ALIGN 5/16" I.D.		1.0000	EACH	
3	IN	651-1666-	PIN GROOVE .187 DIA .625 LG ST		1.0000	EACH	
3	IN	651-1667-	PIN GROOVE .125 DIA .625 LG ST		1.0000	EACH	
2	IN	279-0327-	5538 SIDE FRAME PREP LH PL6868-12		1.0000	EACH	
3	IN	000-0011-	LABOR QUALITY CONTROL		.0260		
3	IN	000-0021-	LABOR PERIPHERAL SYSTEMS		.1290		
3	IN	458-0543-	FRAME,SIDE LH D6868-140		1.0000	EACH	
3	IN	461-3371-	STUD,PINCH ROLLER PIVOT B6868-131		1.0000	EACH	
3	IN	465-0268-	BEARING, SELF-ALIGN 5/16" I.D.		1.0000	EACH	
3	IN	478-0404-	PIVOT,LOAD LEVER B6868-126		1.0000	EACH	
3	IN	651-1666-	PIN GROOVE .187 DIA .625 LG ST		1.0000	EACH	
3	IN	651-1667-	PIN GROOVE .125 DIA .625 LG ST		1.0000	EACH	
3	IN	651-1668-	PIN GROOVE .125 DIA 1.00 LG ST		1.0000	EACH	
2	IN	279-0328-	5538 OUTSIDE FRM PREP LH PL6868-13		1.0000	EACH	
3	IN	000-0011-	LABOR QUALITY CONTROL		.0110		
3	IN	000-0021-	LABOR PERIPHERAL SYSTEMS		.0550		
3	IN	451-4683-	BRKT,HINGE LH 5538 B6868-SK603	EC8918	1.0000	EACH	
3	IN	458-0540-	OUTSIDE FRAME (LH) D6868-109		1.0000	EACH	
3	IN	465-0268-	BEARING, SELF-ALIGN 5/16" I.D.		1.0000	EACH	
3	IN	478-0394-	STUD, RELEASE LEVER B6868-106		1.0000	EACH	
3	IN	651-0465-	RIVET CAP,NI PLATE #D3995	EC8918	1.0000	EACH	
3	IN	651-0466-	RIVET,SFMT-TUR .142D .375L NI PLT	EC8918	1.0000	FACH	
3	IN	653-3002-	WASH 6 .141ID .2500D .062 FL NYL	EC8918	1.0000	EACH	
2	IN	279-0329-	5538 OUTSIDE FRM PREP RH PL6868-14		1.0000	EACH	
3	IN	000-0011-	LABOR QUALITY CONTROL		.0140		
3	IN	000-0021-	LABOR PERIPHERAL SYSTEMS		.0710		
3	IN	451-4682-	BRKT,HINGE RH 5538 B6868-SK603	EC8918	1.0000	EACH	
3	IN	458-0541-	OUTSIDE FRAME (R.H.) D6868-109		1.0000	EACH	
3	IN	465-0268-	BEARING, SELF-ALIGN 5/16" I.D.		1.0000	EACH	
3	IN	478-0394-	STUD, RELEASE LEVER B6868-106		1.0000	EACH	
3	IN	651-0465-	RIVET CAP,NI PLATE #D3995	EC8918	1.0000	EACH	
3	IN	651-0466-	RIVET,SEMI-TUR .142D .375L NI PLT	EC8918	1.0000	EACH	
3	IN	653-3002-	WASH 6 .141ID .2500D .062 FL NYL	EC8918	1.0000	EACH	
2	IN	279-0330-	5538 STACKER SHAFT ASSY PL6868-15		1.0000	EACH	
3	IN	000-0011-	LABOR QUALITY CONTROL		.0150		
3	IN	000-0021-	LABOR PERIPHERAL SYSTEMS		.0730		
3	IN	465-0422-	COLLAR,KICKER B6868-136	EC8689	2.0000	EACH	
3	IN	478-0395-	SHAFT, STACKER C6868-119		1.0000	EACH	
3	IN	478-0403-	KICKER,TWIN SHT HEX NI B6868-129		1.0000	EACH	
3	IN	478-0407-	ROLLER,STACKER (ASSY)B6868-158		2.0000	EACH	

ASSEMBLY PART NUMBER 177-9220-MP- - LEGEND
 ASSEMBLY DESCRIPTION TWIN SHT FDR (81WHP) 6868-5 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: **TAGGED OUT OF KIT(PROD STR)

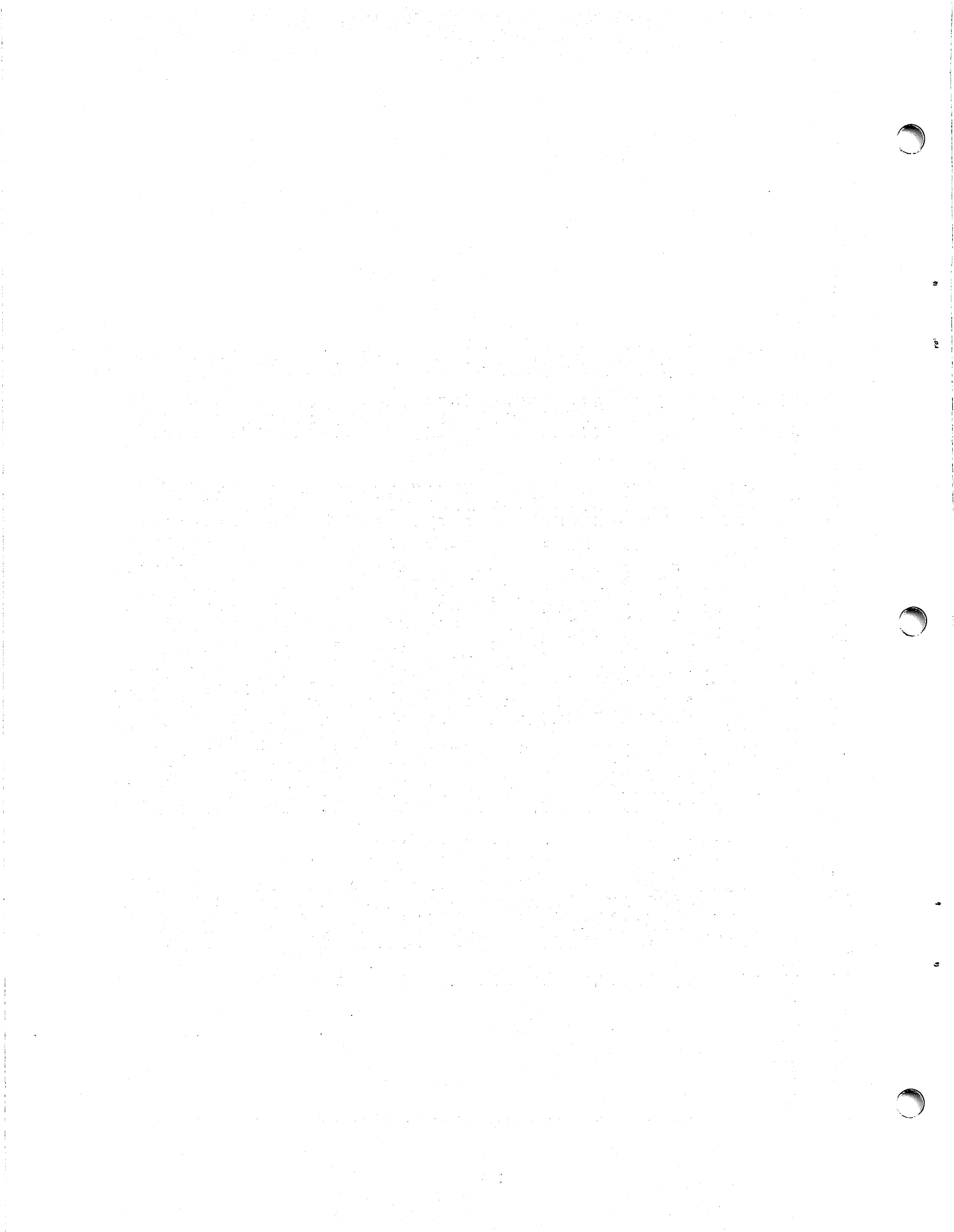
POSITION IN STRUCTURE	LEGEND 1 2 3	COMPONENT PART NUMBER	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
3	IN	650-6061-	10-32 X 3/16 KNURL CUP PT. NYLOK	EC8918	2.0000	EACH	
2	IF	279-0331-	5538 DRIVE MOTOR ASSY PL6868-16		1.0000	EACH	
3	IF	000-0011-	LABOR QUALITY CONTROL		.0080		
3	IF	000-0021-	LABOR PERIPHERAL SYSTEMS		.0420		
3	IF	400-0044-	MOTOR,PMDC C6868-163		1.0000	EACH	
3	IF	478-0397-	PULLEY 080 MINI PITCH 15T		1.0000	EACH	
3	IF	650-2043-	4-40X1/8 KNURL CUP PT PK OX SET SCR	EC8918	2.0000	EACH	
2	IF	279-0332-	5538 DRIVE ROLLER ASSY PL6868-17		1.0000	EACH	
3	IF	000-0011-	LABOR QUALITY CONTROL		.0950		
3	IF	000-0021-	LABOR PERIPHERAL SYSTEMS		.4760		
3	IF	449-0196-	GEAR,DRIVER SHAPT C6868-115		1.0000	EACH	
3	IF	449-0204-	DRIVE,ROLLER ASSY C6868-102		2.0000	EACH	
4	FS	445-0200-	HUB,DRIVE ROLLER 1 D6868-114		1.0000	EACH	
3	IF	451-4659-	BRKT, DRIVE ROLLER C6868-120		1.0000	EACH	
3	IF	461-3359-	ROD,DRIVER PIVOT C6868-100		1.0000	EACH	
3	IF	461-3360-	SHAFT,DRIVE ROLLER B6868-116		1.0000	EACH	
3	IF	462-0397-	SHIM,DRIVE ROLLER B6868-185	E10411	4.0000	EACH	
3	IF	465-0422-	COLLAR,KICKER B6868-136	EC8918	3.0000	EACH	
3	IF	465-0740-	FEARING .3125 ID .078 LG 2 FLG NYL	EC8918	4.0000	EACH	
3	IF	465-1681-	SPRING,CLUTCH B6868-160		1.0000	EACH	
3	IF	651-1641-	PIN DOWELL .0938 CIA .625 LG SS	EC8918	3.0000	EACH	
3	IF	652-6025-	WASHER,FLT .328IDx.5620DX.032 THKSS	EC9405	2.0000	EACH	
3	IF	660-0551-	PAD,SLIP CLUTCH COAK B6868-101		1.0000	EACH	
2	IF	279-0339-	TWIN SHT STND ASSY(81K,81D) 6868-20	EC8918	1.0000	EACH	
3	IF	000-0011-	LABOR QUALITY CONTROL		.0250		
3	IF	000-0021-	LABOR PERIPHERAL SYSTEMS		.1270		
3	IF	458-0545-	STAND,TWIN SHT FDR /81K D6868-168		1.0000	EACH	
3	IF	461-3373-	STUD,STAND R6868-166		2.0000	EACH	
3	IF	660-0063-	RUBBER SEAL CHANNEL X-1048	EC9405	2.0000	FEET	
2	IF	279-5113-	ROLLR ASSY 6631-13		2.0000	EACH	
3	IF	000-0011-	LABOR QUALITY CONTROL		.0040		
3	IF	000-0021-	LABOR PERIPHERAL SYSTEMS		.0220		
3	IF	465-1057-	HUB,PAPER BAIL ROLLER(81)B6631-207		2.0000	EACH	
3	IF	465-1058-	ROLLER,PAPER BAIL(81)B6631-220		1.0000	EACH	
3	IF	656-0108-	RING,BAIL ROLLER(81)B6631-215		1.0000	EACH	
2	IF	446-0040-	WINDOW,FRONT CVR 5538 B6868-505	EC8918	1.0000	EACH	
2	IF	449-0027-	TD 23 PUSH BUTTON B5900-564		1.0000	EACH	
2	IF	449-0169-	RETAINER,NUT(81)(MOLDED)C6631-262	E10411	4.0000	EACH	
2	IF	449-0194-	PULLEY,STACKER DRIVE C6868-143		1.0000	EACH	
2	IF	449-0195-	GEAR,IDLER C6868-113		1.0000	EACH	
2	IF	449-0197-	PULLEY,CLUSTER DRIVER C6868-110		1.0000	EACH	
2	IF	449-0199-	PULLEY STACKER CLUSTER C6868-103		1.0000	EACH	
2	IF	450-0904-	WANG NAME TAG C6815-97	EC9405	1.0000	EACH	
2	IF	451-0244-	LEG, REAR C6868-125		1.0000	EACH	
2	IF	451-1556-	BRACE,SIDE FRAME 5538 C6868-163	E10411	1.0000	EACH	
2	IF	451-2180-2	COVER,FRNT WLDMNT 81WHP D6868-SK610	EC8918	1.0000	EACH	

ASSEMBLY PART NUMBER 177-9220-WP- --
 ASSEMBLY DESCRIPTION TWN SHT FDR (81WWP) 6868-5 1: P=PHANTOM; 2: ITEM MASTER DELY CODE; 3: *=TAGGED OUT OF KIT(PROD STR)

POSITION IN STRUCTURE	LEGIND	COMPONENT PART NUMBER	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
2	I	451-2181-2	COVER, TOP RH 81WWP	D6868-SK604	1.0000	EACH	
2	I	451-2182-1	COVER, TOP LH 81W/WWP	C6868-SK605	1.0000	EACH	
2	I	451-2932	COVER,STACKER D6868-165		1.0000	EACH	
2	I	451-3633	PANEL,REAR D6868-142		1.0000	EACH	
2	I	451-4656	BRACKET,TRIPPER R.H.	B6868-117	2.0000	EACH	
2	I	451-4657	BRACKET,TRIPPER L.H.	B6868-117	2.0000	EACH	
2	I	451-4658	BRKT, PINCH ROLLER C6868-130	EC8918	2.0000	EACH	
2	I	451-4684	BRKT,RR SUPPORT RH 5538	B6868-SK600	1.0000	EACH	
2	I	451-4685	BRKT,RR SUPPORT LH 5538	B6868-SK600	1.0000	EACH	
2	I	451-4686	BRKT,TENSION 5538	B6868-507	1.0000	EACH	
2	I	452-0118	PLATE,CAM RH 5538	B6868-SK617	1.0000	EACH	
2	I	452-0119	PLATE,CAM LH 5538	B6868-SK617	1.0000	EACH	
2	I	452-0517	PLATE,RESTIAR WELD	D6868-534	1.0000	EACH	
2	I	452-2170	PLATE,FRONT REST C6868-145		1.0000	EACH	
2	I	452-2174	PLATE FEEDER D6868-144	E10175	2.0000	EACH	
2	I	452-2175	PLATE,SM END RH 5538	B6868-SK611	1.0000	EACH	
2	I	452-2176	PLATE,SM END LH 5538	B6868-SK611	1.0000	EACH	
2	I	452-4064	PAPER GUIDE, STACKER C6868-146		1.0000	EACH	
2	I	452-4066	PAPER GUIDE,L.H.WELDMENT C6868-162		1.0000	EACH	
2	I	452-4067	PAPER GUIDE,R.H.WELDMENT C6868-161		1.0000	EACH	
2	I	458-0529	WIRE, STACKER C6868-133		1.0000	EACH	
2	I	458-0536	LEVER,RELEASE-R.H.	C6868-108	1.0000	EACH	
2	I	458-0537	LEVER,RELEASE-L.H.	C6868-108	1.0000	EACH	
2	I	458-0544	STACKER E6868-141		1.0000	EACH	
2	I	458-0548	WALL, HOPPER D6868-170	E10175	2.0000	EACH	
2	I	458-0561	COVER,SUPPORT RH 5538	C6868-SK607	1.0000	EACH	
2	I	458-0562	COVER,SUPPORT LH 5538	C6868-SK607	1.0000	EACH	
2	I	458-0563	CAP,LARGE END (L.H.) SS	C6868-532	1.0000	EACH	
2	I	458-0564	CAP,END LARGE RH	E6868-SK615	1.0000	EACH	
2	I	458-0565	STOP,HANDLE .50 OD 5538	B6868-521	2.0000	EACH	
2	I	461-3370	STUD,HOPPER WALL B6868-153	EC9405	4.0000	EACH	
2	I	461-3374	STUD,HOPPER WALL CAM B6868-169	EC8918	2.0000	EACH	
2	I	461-3411	ROD,PIVOT 5538	B6868-179	4.0000	EACH	
2	I	462-0015	SPCR .140 ID .250 OD .250 L RD B	EC8918	2.0000	EACH	
2	I	462-0318	SPACER,UPPER MACH 5538	C6868-172	1.0000	EACH	
2	I	462-0330	SPCR 8-32UNC .250 OD 1.5 L RD A	EC9405	4.0000	EACH	
2	I	465-0707	BEARING .250 ID .140 LG 2 FLG NYL	EC9405	8.0000	EACH	
2	I	465-0921	SPRING BALANCE B5519-64 380 (1	EC9405	4.0000	EACH	
2	I	465-0925	TD 23 TAKE-UP DR SPRNG B5900-614 P1	EC9405	2.0000	EACH	
2	I	465-1615	SPRING,LEE 022B-8	EC8918	1.0000	EACH	
2	I	465-1679	SPRING,RELEASE LEVER B6868-107	EC8918	1.0000	EACH	
2	I	465-1682	SPRING,HOPPER WALL B6868-167	EC8918	1.0000	EACH	
2	I	465-1685	SPRING, GUIDE 5538	C6868-174	2.0000	EACH	
2	I	478-0338	ROD,BASE TRAY MTG(81)B6631-236	E10411	4.0000	EACH	
2	I	478-0392	ROD, PINCH ROLLER B6868-121	EC8918	3.0000	EACH	
2	I	478-0397	PULLEY 080 MINI PITCH 15T		1.0000	EACH	
2	I	478-0398	ROLLER, FRICTION B6868-159	EC8918	1.0000	EACH	
2	I	478-0400	SPAN EXTRUSION 81WWP D6868-151		4.0000	EACH	
2	I	478-0439	SCREW,JACK 5538	B6868-178	1.0000	EACH	
2	I	650-0005	SCR 1-64X1/2 SLT FLT HD SS	EC9405	2.0000	EACH	
2	I	650-3092-W	6-32 1/4 FLAT HD 100 DEG CS(WHITE)	EC9405	1.0000	EACH	
2	I	650-3100	SCR 6-32 5/16 PHIL PH MS SS	EC9405	6.0000	EACH	
2	I	650-3100	SCR 6-32 5/16 PHIL PH MS SS	EC9405	14.0000	EACH	

ASSEMBLY PART NUMBER 177-9220-WP - LEGEND
 ASSEMBLY DESCRIPTION TWN SHT FDR (81WVP) 6868-5 1: P-PHANTOM; 2: ITEM MASTER DELY CODE; 3: *-TAGGED OUT OF KIT(PROD STR)

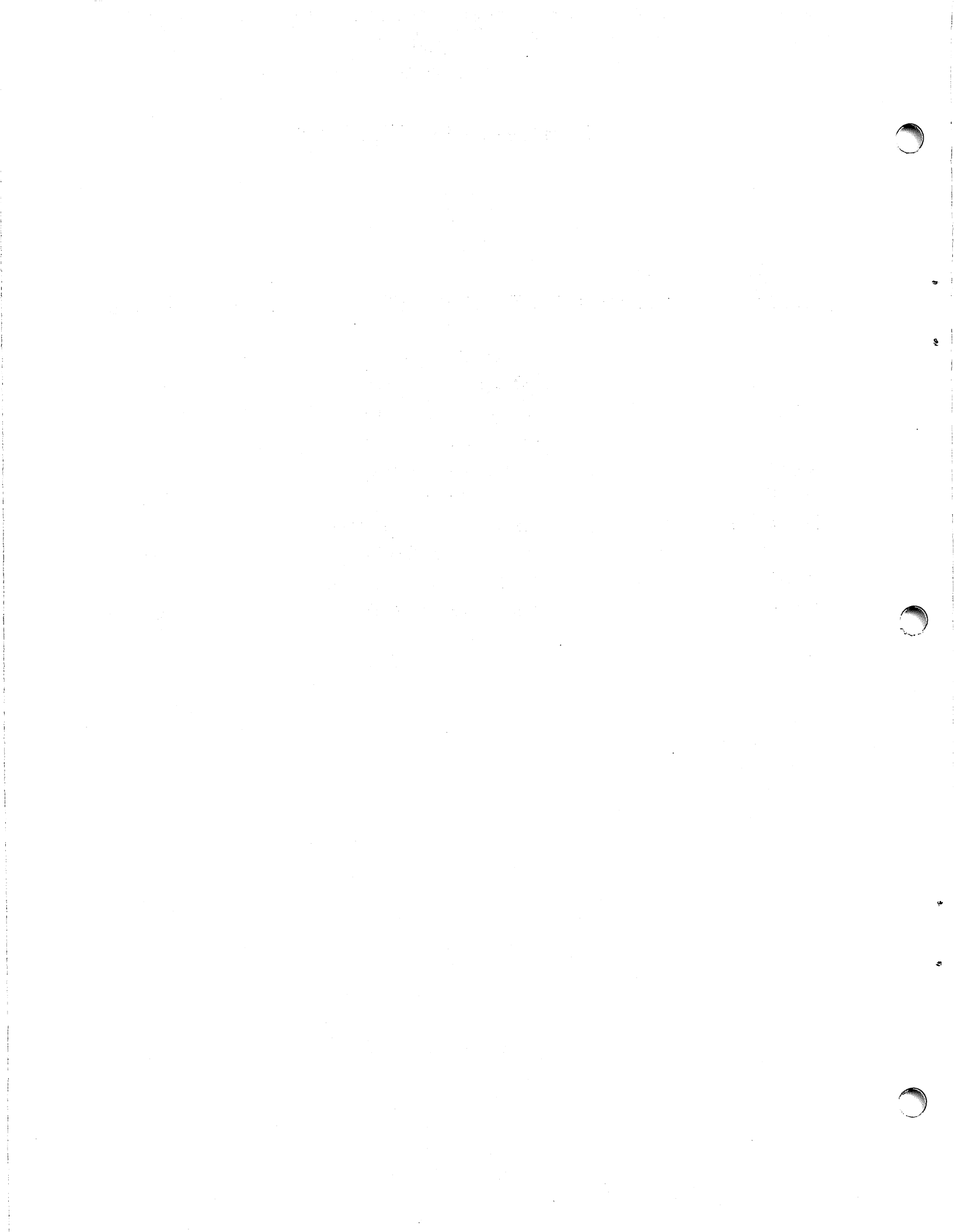
POSITION IN LEGEND STRUCTURE	1	2	3	COMPONENT PART NUMBER	DESCRIPTION	E C N	QUANTITY PER ASSY	U/M	IML
2	IA	650-3121-	-	-	SCR 6-32 3/8 PHIL FLAT H MS SS	EC9405	1.0000	EACH	
2	IA	650-3135-	-	-	SCR PNL 6-32 X 3/8 PAN HD PH	EC9405	4.0000	EACH	
2	IA	650-3136-	-	-	SCR 6-32 3/8 HEX SET CUP PT NYLOK	E10411	2.0000	EACH	
2	IA	650-3160-	-	-	6-32 X 1/2 PAN HD PHL MS SS SEMS	EC9405	2.0000	EACH	
2	IA	650-4120-	-	-	8-32 X 3/8 PAN HD PHL MS SS SEMS	EC9405	10.0000	EACH	
2	IA	650-4326-	-	-	SCR 8-32 1.00 HEX HD MS ST	E10411	2.0000	EACH	
2	IA	650-4881-	-	-	SCR 8-16 5/8 PHL FLT H SLF TP PLAST		2.0000	EACH	
2	IA	651-0039-	-	-	SCR*#6X1/2 SELF TAP HEX HD T-8	EC9405	9.0000	EACH	
2	IA	651-1701-	-	-	S133-12PPP SNAP RING	EC9405	2.0000	EACH	
2	IA	651-1702-	-	-	RTNR RING .156 SFT DIA EXT TYPE E	EC9405	2.0000	EACH	
2	IA	651-1712-	-	-	RTNR RING .188 SFT DIA EXT TYPE E	EC9405	4.0000	EACH	
2	IA	651-1715-	-	-	5100-25MD SNAP RING	EC9405	1.0000	EACH	
2	IA	651-1719-	-	-	RTNR RING .250 SFT DIA EXT TYPE E	EC9405	1.0000	EACH	
2	IA	651-1728-	-	-	RTNR RING .248 SFT DIA EXT GRIP-ON	EC9405	8.0000	EACH	
2	IA	651-1732-	-	-	RTNR RING .312 SFT DIA EXT TYPE E	EC9405	3.0000	EACH	
2	IA	651-1745-	-	-	RTNR RING .185 SFT DIA EXT GRIP-ON	EC9405	2.0000	EACH	
2	IA	651-1758-	-	-	RTNR RING .310 SFT DIA EXT GRIP-ON	EC9405	2.0000	EACH	
2	IA	652-0988-	-	-	NUT 1-64 UNC HEX REG PAT SS	EC9405	1.0000	EACH	
2	IA	652-3004-	-	-	NUT 6-32UNC HEX SMALL PAT	EC9405	8.0000	EACH	
2	IA	652-6004-	-	-	10-32 ACORN NUT BRIGHT FINISH	EC8918	1.0000	EACH	
2	IA	653-0001-	-	-	WASH 10 .196ID .3750D .062 FL NYL	EC8918	4.0000	EACH	
2	IA	653-0045-	-	-	WASHER,HANDLE 5538 B6868-537	EC9405	2.0000	EACH	
2	IA	653-3000-	-	-	WASH 6 .149ID .3750D .016 FL SS	EC9405	20.0000	EACH	
2	IA	653-3001-	-	-	WASH 6 .150ID .2880D INT T ST	EC9405	22.0000	EACH	
2	IA	653-4000-	-	-	WASH 8 .174ID .3750D .016 FL SS	EC9405	6.0000	EACH	
2	IA	653-6000-	-	-	WASH 10 .203ID .4380D .032 FL SS	EC9405	2.0000	EACH	
2	IA	653-6002-	-	-	#10 FLAT WSHR (7/32X1/2X1/16)ZINC PL	EC9405	5.0000	EACH	
2	IA	653-6024-	-	-	WASHER,FLAT NYLON 5/16 I.D. .500 OD	EC8918	1.0000	EACH	
2	IA	654-1214-	-	-	GROMMET, HEYCO GP3-4 (70,80,F	EC9405	1.0000	EACH	
2	IA	654-1295-	-	-	CABLE CLAMP RICHCO HUC-2 ADV BACK	EC9578	2.0000	EACH	
2	IA	655-0021-	-	-	BUTTON PLUG	EC8918	4.0000	EACH	
2	IA	655-0175-	-	-	HANDLE,5538 .312 DIA BK B6868-518	EC9405	2.0000	EACH	
2	IA	655-0206-	-	-	301 SHOCK PAD GREENE #7061-40	EC9405	2.0000	EACH	
2	IA	655-0252-	-	-	BUMPER, RUBBER	EC8918	1.0000	EACH	
2	IA	656-0108-	-	-	RING,BAIL ROLLER(81)B6631-219	EC8918	8.0000	EACH	
2	IA	656-0235-	-	-	RELT TIMING 55 T .200P 1/5 P.250 W	EC8918	1.0000	EACH	
2	IA	656-0236-	-	-	RELT TIMING 94 T .080P MXL P.250 W	EC8918	1.0000	EACH	
2	IA	660-0054-	-	-	1/4 X 1/2 STIKTAPE (18 YARD ROLL)	EC9578	1.0000	FEET	
2	IA	660-0597-	-	-	PAD,FEEDER PLATE B6868-155	E10175	2.0000	EACH	
2	IA	660-0616-	-	-	FOAM,TOP COVER RH 81W/D B6868-SK625	EC9578	1.0000	EACH	
2	IA	660-0617-	-	-	FOAM,TOP COVER RH 81WVP B6868-SK625	EC9578	1.0000	EACH	
2	IA	660-0618-	-	-	FOAM,FRONT CVR LH 81WVP B6868-SK623	EC9578	1.0000	EACH	
2	IA	660-0619-	-	-	FOAM,FRONT CVR LH 81W/D B6868-SK623	EC9578	1.0000	EACH	
2	IA	660-0620-	-	-	FOAM,FRONT CVR RH TSF B6868-528	EC9578	1.0000	EACH	
2	IA	660-0621-	-	-	FOAM,OUTSIDE FRAME RH B6868-SK622	EC9578	1.0000	EACH	
2	IA	660-0622-	-	-	FOAM,OUTSIDE FRAME LH B6868-SK622	EC9578	1.0000	EACH	
2	IA	660-0623-	-	-	FOAM,FRNT CVR, TOP RH 81WR6868-SK626	EC9578	1.0000	EACH	
2	IA	660-0624-	-	-	FOAM,FRNT CVR, TOP RH 81 B6868-SK626	EC9578	1.0000	EACH	
2	IA	660-0625-	-	-	FOAM,FRNT CVR, TOP LH B6868-524	EC9578	1.0000	EACH	
2	IA	660-0626-	-	-	FOAM TOP CVR TOP LH TSF B6868-525	EC9578	1.0000	EACH	



APPENDIX B

RECOMMENDED SPARES LIST - BRANCHLEVEL B5538

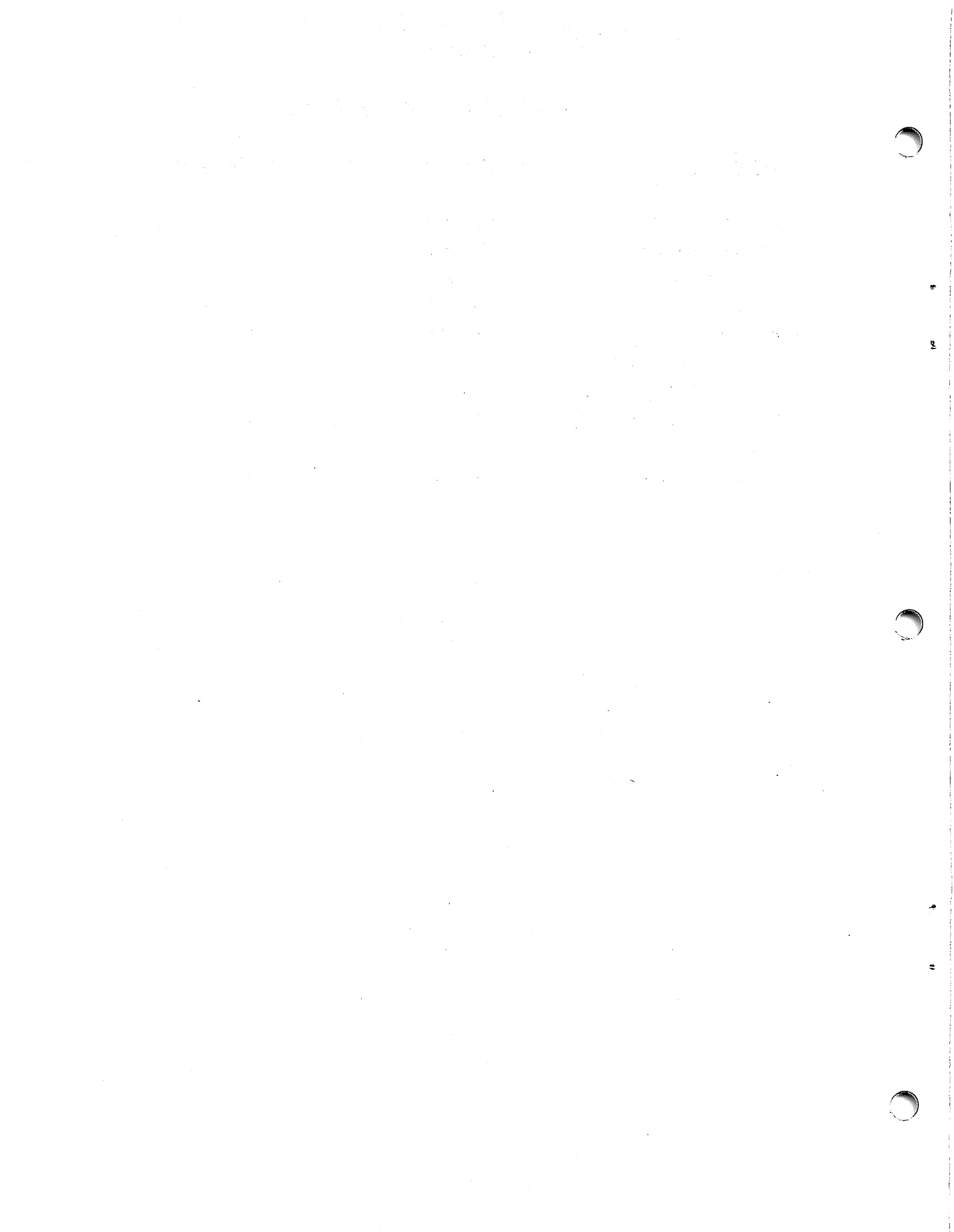
<u>W.L.I.</u>	<u>OEM</u>		<u>QTY.</u>	
<u>PART NUMBER</u>	<u>PART NUMBER</u>	<u>NAME AND DESCRIPTION</u>	<u>1-5 UNITS</u>	<u>COMMENTS</u>
210-7446		PCB I/O Control	1	928
210-7447		PCB Photocell Cntrl	1	928
210-7448		PCB Paper Feed Cntrl	1	928
375-2110-M4		Photo Cell	2	
465-0921		Feeder Plate Spring	2	
210-7449		PTR I/O Control	1	System 5
210-7449-1		PTR I/O Cntl & Twin Sheet	1	System 5
210-7549		PTR I/O Cntl/Twin Sheet/Mux	1	System 5
210-7436		PTR I/O Control/Twin Sheet	1	81W/WWP
210-7636		PTR I/O Cntl/TSF/Dual Head	1	81W/WWP/DH



APPENDIX C

SUGGESTED SPARE PARTS LIST (WPNL 56.1)

<u>DESCRIPTON</u>	<u>WLI Part Number</u>	<u>Quantity Per Unit</u>
Tripper, Right Hand	451-4656	1
Tripper, Left Hand	451-4657	1
Belt, Motor	656-0236	1
Motor	279-0331	1
Harness	220-0194	1
(including 210-7447)		
Left Paper Guide Assy.	452-4066	1
Feeder Place Spring	465-0921	4
Photo Cell	375-2110-M	1
Stand Off/s (7448 PC)	462-0321	4



APPENDIX D
SCHEMATICS

<u>SCHEMATIC #</u>	<u>PAGE</u>
210-7446	D-3
210-7447	D-4
210-7448	D-5/D-6
210-7636	D-7/D-10

North America:

Alabama
Birmingham
Mobile

Alaska
Anchorage

Arizona
Phoenix
Tucson

California
Fresno
Inglewood
Los Angeles
Sacramento
San Diego
San Francisco
San Mateo
Sunnyvale
Tustin
Ventura

Colorado
Denver

Connecticut
New Haven
Stamford
Wethersfield

District of Columbia
Washington

Florida
Jacksonville
Miami
Orlando
Tampa

Georgia
Atlanta

Hawaii
Honolulu

Illinois
Chicago
Morton
Park Ridge
Rock Island

Indiana
Indianapolis
South Bend

Kansas
Overland Park
Wichita

Kentucky
Louisville

Louisiana
Baton Rouge
Metairie

Maryland
Rockville
Towson

Massachusetts
Boston
Burlington
Littleton
Lowell
Tewksbury
Worcester

Michigan
Grand Rapids
Okemos
Southfield

Minnesota
Eden Prairie

Missouri
Creve Coeur

Nebraska
Omaha

Nevada
Reno

New Hampshire
East Derry
Manchester

New Jersey
Howell
Mountainside

New Mexico
Albuquerque

New York
Albany
Buffalo
Lake Success
New York City
Rochester
Syracuse

North Carolina
Charlotte
Greensboro
Raleigh

Ohio
Cincinnati
Columbus
Middleburg Heights
Toledo

Oklahoma
Oklahoma City
Tulsa

Oregon
Beaverton
Eugene

Pennsylvania
Allentown
Camp Hill
Erie
Philadelphia
Pittsburgh
Wayne

Rhode Island
Cranston

South Carolina
Charleston
Columbia

Tennessee
Chattanooga
Knoxville
Memphis
Nashville

Texas
Austin
Dallas
Houston
San Antonio

Utah
Salt Lake City

Virginia
Newport News
Richmond

Washington
Seattle
Spokane

Wisconsin
Brookfield
Madison
Milwaukee

Canada
Wang Laboratories
(Canada) Ltd.
Don Mills, Ontario
Calgary, Alberta
Edmonton, Alberta
Winnipeg, Manitoba
Ottawa, Ontario
Montreal, Quebec
Burnaby, B.C.

International Subsidiaries:

Australia

Wang Computer Pty. Ltd.
Sydney, NSW
Melbourne, Vic.
Canberra, A.C.T.
Brisbane, Qld.
Adelaide, S.A.
Perth, W.A.
Darwin, N.T.

Austria

Wang Gesellschaft M.B.H.
Vienna

Belgium

Wang Europe, S.A.
Brussels
Erpe-Mere

Brazil

Wang do Brasil
Computadores Ltda.
Rio de Janeiro
Sao Paulo

China

Wang Industrial Co., Ltd.
Taipei, Taiwan

France

Wang France S.A.R.L.
Bagnole
Ecully
Nantes
Toulouse

Great Britain

Wang Electronics Ltd.
Northwood Hills, Middlesex
Northwood, Middlesex
Harrogate, Yorkshire
Glasgow, Scotland
Uxbridge, Middlesex

Hong Kong

Wang Pacific Ltd.
Hong Kong

Japan

Wang Computer Ltd.
Tokyo

Netherlands

Wang Nederland B.V.
Ijsselstein

New Zealand

Wang Computer Ltd.
Grey Lynn, Auckland

Panama

Wang de Panama
(CPEC) S.A.
Panama

Republic of Singapore

Wang Computer Pte., Ltd.
Singapore

Republic of South Africa

Wang Computers
(South Africa) (Pty.) Ltd.
Bordeaux, Transvaal
Durban
Capetown

Sweden

Wang Skandinaviska AB
Solna
Gothenburg
Arloev
Vasteras

Switzerland

Wang S.A./A.G.
Zurich
Bern
Pully

West Germany

Wang Laboratories GmbH
Berlin
Cologne
Duesseldorf
Fellbach
Frankfurt/M.
Freiburg/Brsg.
Hamburg
Hannover
Kassel
Munich
Nuernberg
Stuttgart

International Representatives:

Argentina
Bolivia
Canary Islands
Chile
Colombia
Costa Rica
Cyprus
Denmark
Dominican Republic
Ecuador
Finland
Ghana
Greece
Guatemala
Iceland
India
Indonesia
Iran
Ireland
Israel
Italy
Jamaica
Japan
Jordan

Kenya
Korea
Lebanon
Liberia
Malaysia
Mexico
Morocco
Nicaragua
Nigeria
Norway
Pakistan
Peru
Philippines
Portugal
Saudi Arabia
Spain
Sri Lanka
Syria
Thailand
Tunisia
Turkey
United Arab Emirates
Venezuela
Yugoslavia

WANG

LABORATORIES, INC.

ONE INDUSTRIAL AVENUE, LOWELL, MASSACHUSETTS 01851. TEL. (617) 851-4111, TWX 710 343-8769, TELEX 94-7421

Printed in U.S.A.
700-4875
9-79-3.5M