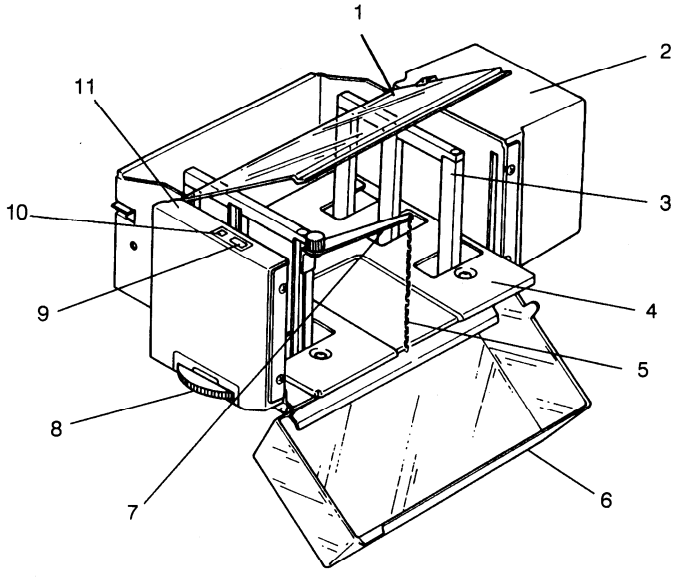
1. SPECIFICATIONS

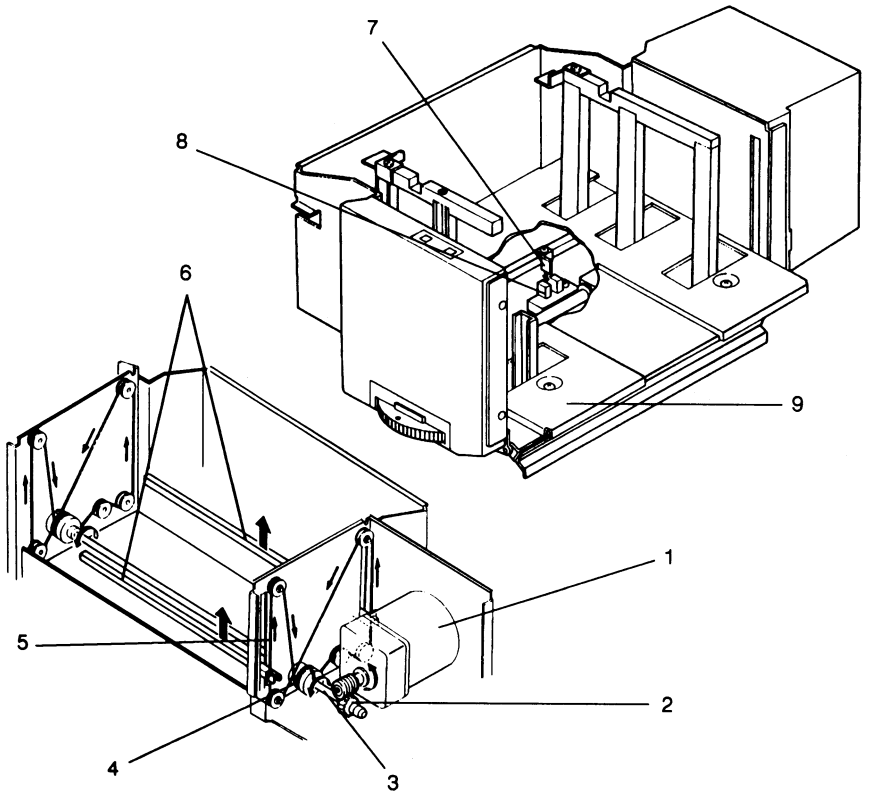
Copy Paper Size:	B4 (lengthwise, 257 mm x 364 mm) A4 (lengthwise or sideways, 210 mm x 297 mm) B5 (lengthwise or sideways, 182 mm x 210 mm) Legal (lengthwise, 8½" x 14") Letter (lengthwise or sideways, 8½" x 11")
Copy Paper Weight:	52 g to 105 g (14 lb to 28 lb)
Tray Capacity:	Approximately 1,000 sheets
Lift Time:	Maximum: 12 seconds (50 Hz) 10 seconds (60 Hz)
Power Source:	220 V, 50 Hz, 0.15 A 240 V, 50 Hz, 0.15 A 115 V, 60 Hz, 0.3 A
Power Consumption:	Maximum: 30 Watts
Dimensions (W x D x H):	284 mm x 545 mm x 227 mm
Weight:	12 kg

2. MECHANICAL COMPONENT LAYOUT



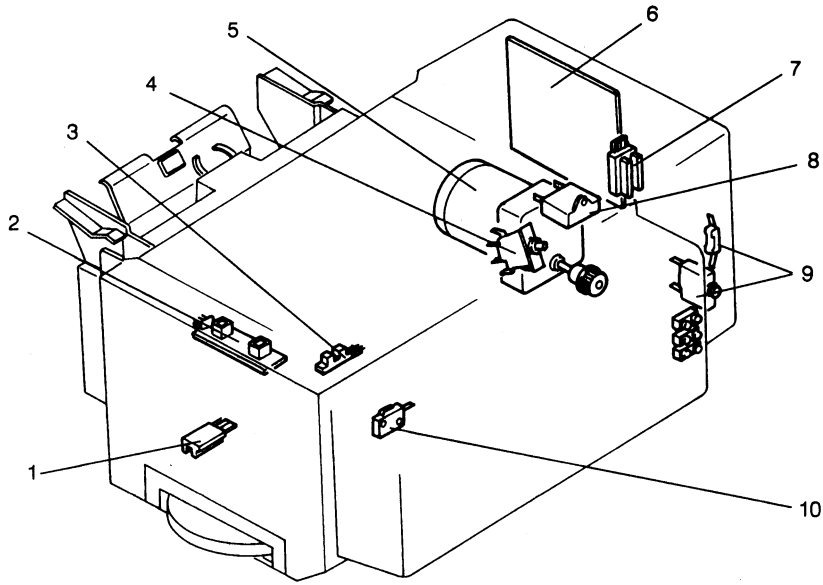
1. Top Cover
2. Rear Cover
3. Side Post
4. Tray Bottom Plate
5. Stopper Chain
6. Side Cover
7. Stopper Bar
8. Paper Size Dial
9. Close Cover Indicator
10. Down Key
11. Front Cover

3. DRIVE LAYOUT AND DRIVE MECHANISM



1. Tray Drive Motor (Reversible AC Motor)
2. Tray Drive Wheel
3. Tray Drive Shaft
4. Wire Drive Pulley
5. Tray Wire
6. Lift Rods
7. Actuator Plate
8. Tray Down Sensor
9. Tray Bottom Plate

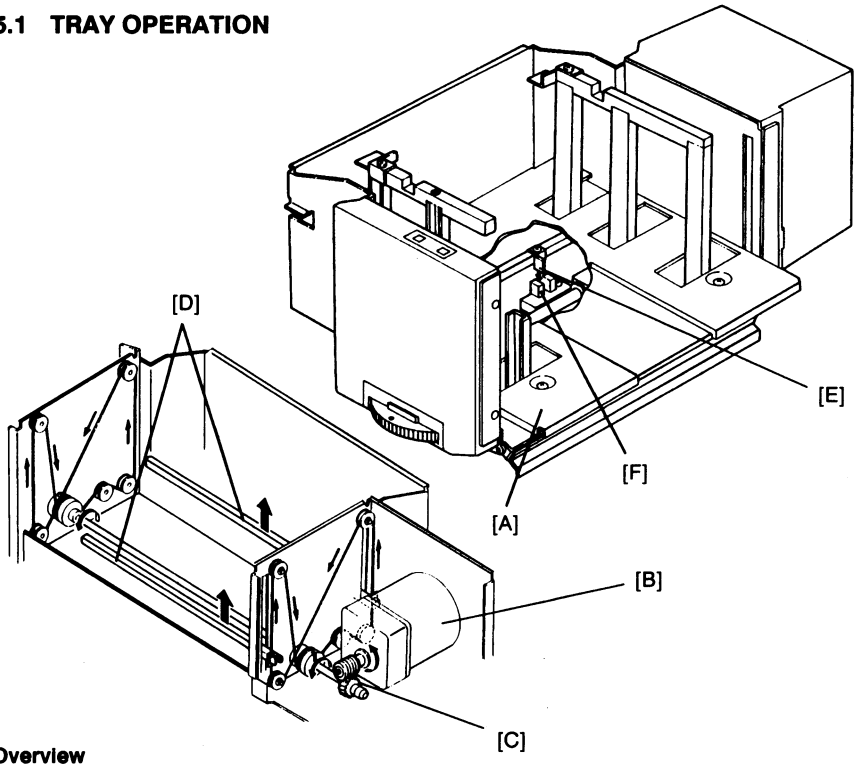
4. ELECTRICAL COMPONENT LAYOUT



1. LCT Paper Size Sensor
2. LCT Operator PCB
3. LCT HP Sensor
4. Cover Safety Switch
5. LCT Drive Motor
6. LCT Main PCB
7. LCT Paper Volume Sensor
8. Motor Capacitor
9. Circuit Breaker (115 V)
9. Fuse (220/240 V)
10. Positioning Switch

5. FUNCTIONAL AND ELECTRICAL DESCRIPTION

5.1 TRAY OPERATION

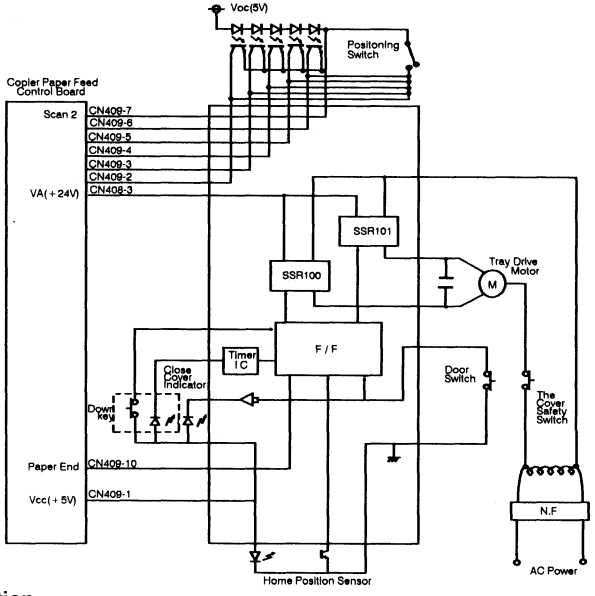


Overview

The bottom plate [A] of the large capacity tray is raised and lowered by a wire and pulley mechanism. This mechanism is driven by the tray motor [B] (reversible ac motor).

Drive power is transmitted directly to the tray drive shaft via a worm gear and worm wheel [C]. The tray wires have braces on them; these braces hold the ends of the two lift rods [D] which support the tray bottom plate. When the wire drive pulley turns clockwise, the braces on the wires raise the lift rods and the tray bottom plate. The bottom plate rises until the paper in the tray pushes up the pick-up roller, actuating the lower lift sensor.

The tray bottom plate lowers when the tray drive motor turns the wire drive pulley counterclockwise. It stops moving down when the actuator plate [E], on the left lift rod, actuates the tray down sensor [F].



Down Operation

The bottom plate moves down either when the Down key is pressed or when paper runs out. When either condition occurs, the flip-flop on the tray main board changes state (all outputs change from LOW to HIGH or vice versa). Then, two things happen simultaneously: (1) The timer circuit turns on, causing the LED in the Down key to blink; and (2) SSR100 turns on, energizing the drive motor to move the tray down.

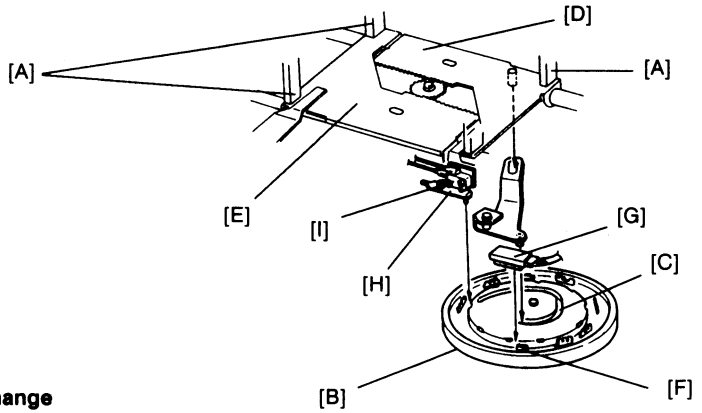
The tray down sensor is actuated when the bottom plate is fully lowered. This causes the flip-flop to change back to its original state, which turns off SSR1 00 and resets the timer circuit. The LED in the Down key stays on.

Up Operation

Up operation is started by opening and closing the cover while the bottom plate is in the down position. The cover safety switch changes the state of the flip-flop to energize SSR101, which turns on the drive motor to move the tray up. The drive motor stays on until the paper pushes up the pick-up roller. The actuator on the pick-up roller bracket then moves out of the upper limit sensor; this again changes the flip-flop's state and the motor stops.

NOTE: If JP-118 on the tray main board is removed, the bottom plate moves up by opening and closing the cover before the bottom plate actuates the tray down sensor.

5.2 PAPER SIZE CHANGE AND DETECTION



Paper Size Change

Three paper guide posts [A] at the front and rear sides of the large capacity tray align the paper in the tray. The two sets of guide posts are connected by a rack and pinion system which keeps the guide posts equidistant from the center of the tray.

The guide posts move as the paper size dial [B] turns. As the dial is rotated, the size lever tracks a cam groove [C] on the surface of the dial. Movement of the size lever is transferred to the front post rack of the rack and pinion system. Any movement of the front post rack [D] is transferred by the pinion to the rear post rack [E].

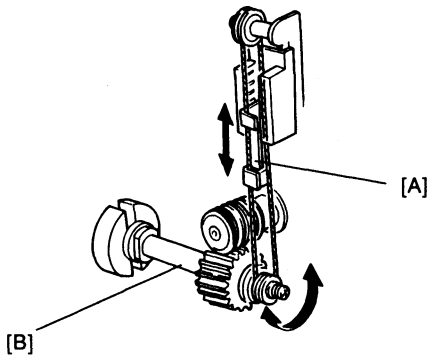
Paper Size Detection

The paper size detection system of the large capacity tray is similar to that of the cassette. Both systems use the same data bus, signals, and type of sensor. However, the mechanism of paper size detection in the large capacity tray is different.

When the paper size dial is rotated to a standard paper size, one of the actuator plates [F] enters the paper size sensor [G]. At the same time, the pin on the leaf spring [H] drops into a notch on the inside rim of the dial and the positioning switch [I] becomes de-actuated. This signal allows the copier CPU to monitor data from the paper size sensor. The paper size of the tray is then displayed on the indicator screen where the size of the lower cassette is usually displayed.

When the paper size dial is positioned at a non-standard paper size, the positioning switch is actuated. At this time, the Load Paper indicator lights and no paper size is displayed on the indicator screen.

5.3 PAPER VOLUME DETECTION

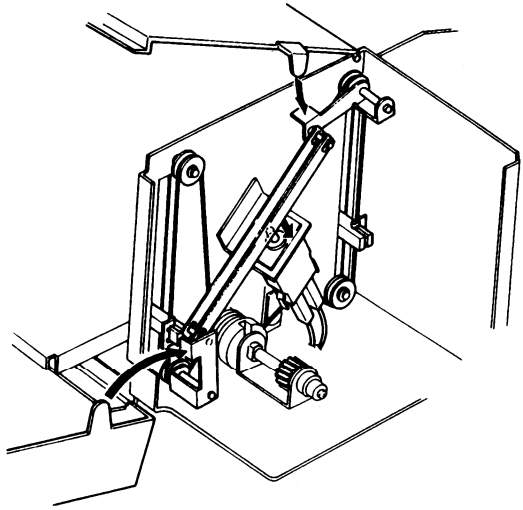


The paper volume detection system of the large capacity tray is similar to that of the cassettes. Both systems use the same data bus, signals, and sensor type. However, the mechanism of detection and meaning of the display are different.

Unlike cassette volume detection, the paper volume actuator plate [A] of the large capacity tray is not moved by the sector gear. Instead, the actuator plate is moved by the tray wire attached to the tray drive shaft [B].

When the large capacity tray is full (approximately 1,000 sheets), the first four indicators are lit. The indicators turn off one at a time, each after approximately 225 sheets of paper have been fed. The last indicator is the only one remaining lit when about 130 sheets remain in the tray. This indicator turns off after the last sheet has been fed.

5.4 COVER SAFETY SWITCH



The cover safety switch monitors whether or not the top and side covers are closed. If either cover is open, the safety switch is de-actuated.

Pins on the top and bottom actuator levers hold the safety switch actuator. The top actuator lever is pushed down by the top cover, while the bottom actuator lever is pushed in by the side cover. Therefore, the safety switch actuates only when both the top and side covers are closed.

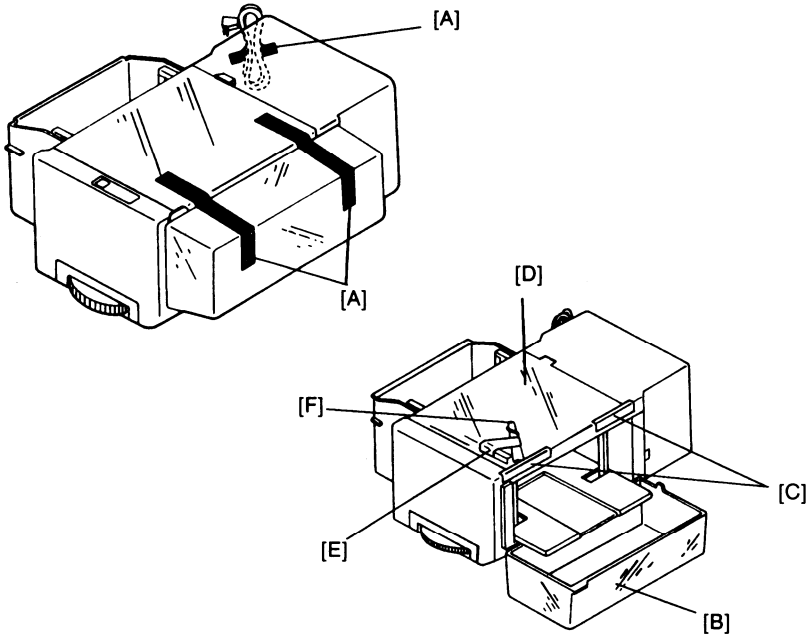
6. INSTALLATION

6.1 1. Accessory Check

Check the quantity and condition of the accessories in the box according to the following list:

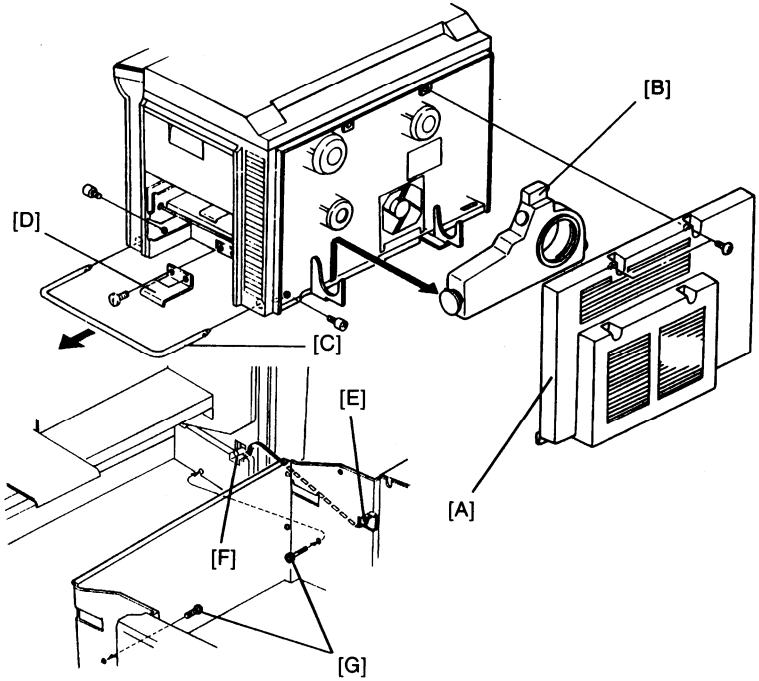
1. Bolt - M4 x 12	1
2. Bolt - M4 x 22	1
3. Nylon Clamp	1
4. Screw - M4 x 8	1
5. Multiple Language Decal (220/240V Only)	1
6. NECR	1
7. Envelope - NECR (115V Only	1

6.2 Installation Procedure



NOTE: The LCT can only be installed with the system table or the cassette bank.

1. Remove the three strips of tape [A].
2. Open the side cover [B] and remove two strips of tape [C] on the top cover.
3. Open the top cover [D] and remove the strip of tape [E] securing the stopper bar [F].
4. Turn off the main switch of the copier and unplug the power supply cord.
5. Remove the first and the second cassettes from the copier.



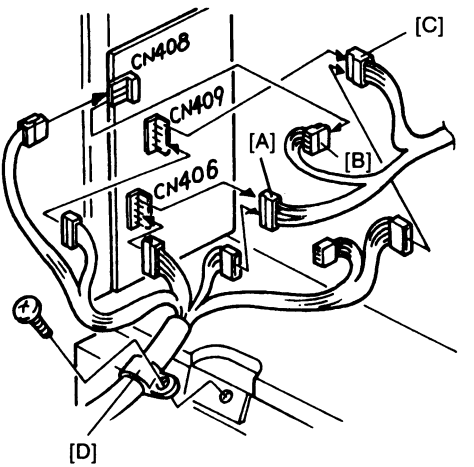
6. Remove the rear cover [A] (2 screws), and remove the toner collection bottle [B].
7. Remove the handle [C] on the bottom right side of the copier (2 stud screws), then remove the second cassette lift arm [D] (2 screws).

   NOTE: Save this handle for later use (when transporting the copier).

8. Insert the tray into the second cassette position.

   NOTE: Make sure that the rib [E] fits into the groove [F].

9. Open the side and top covers and secure the tray with two bolts [G]. Use the longer bolt for the rear side and the shorter bolt for the front side.



10. Disconnect CN406 [A], CN408 [B], and CN409 [C] on the feed control board.

11. Connect the six tray harness connectors to the three free harness connectors and to the three connectors on the feed control board as follows:

TRAY	**CONTROL BOARD**
Female 4P	CN408
Female 10P	CN406
Female 12P	CN409

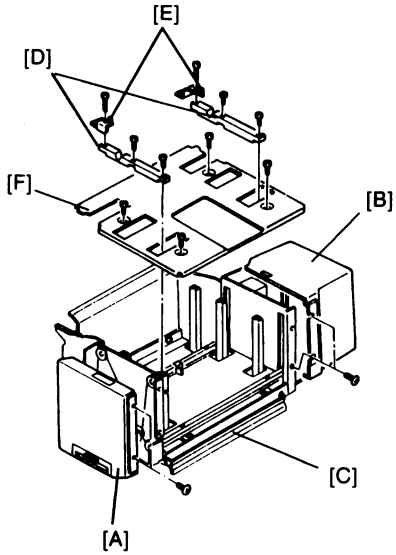
TRAY	**FREE**
Male 4P	4P
Male 10P	10P
Male 12P	12P

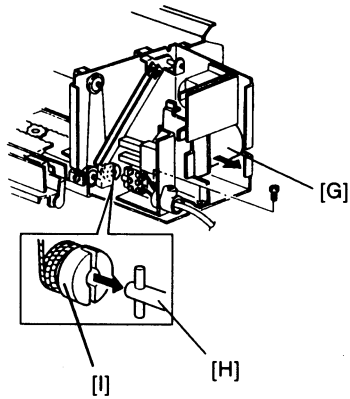
12. Secure the harness to the copier table with the nylon clamp [D] (1 screw).

13. Reinstall the toner collection bottle and the rear cover.
14. Plug in the power supply cords for both the large capacity tray andthe copier.
15. Load paper into the tray.
16. Turn on the main switch of the copier, and check the tray operation.
17. Fill out the New Equipment Condition Report.

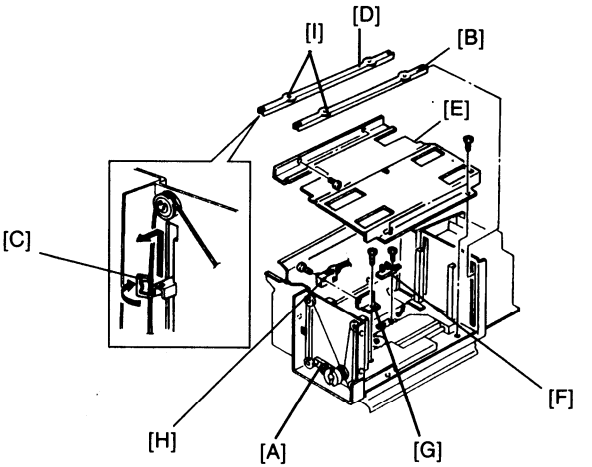
7. REPLACEMENT AND ADJUSTMENT

7.1 Tray Down Sensor and Positioning Switch Replacement





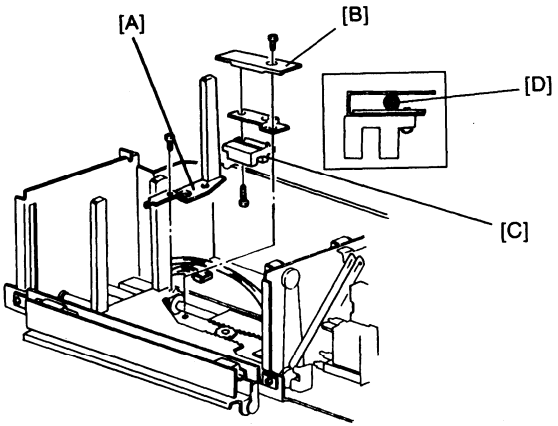
1. Open the side cover and remove the front cover [A] (2 screws and 1 connector) and the rear cover [B] (4 screws).
2. Remove the top cover.
3. Remove the stopper bar assembly [C] (2 screws).
4. Remove the two (2) post tops [D] and the two paper guides [E] (1 long and 2 short screws each).
5. Remove the tray bottom plate [F] (4 screws).
6. Move the tray drive motor ass'y [G] (2 screws) to the rear to disengage the tray drive shaft [H] from the wire drive pulley [I].



7. Loosen the front wire tightener [A] (1 screw).
8. Remove the right lift rod [B] from the braces [C] (front side first).
9. Disengage the front end of the left lift rod [D] by raising it partway; then, lift it out from the top.
10. Remove the inner cover [E] (2 short and 2 long screws).
11. Replace the tray down sensor [F] (1 screw and 1 connector).
12. Rotate the paper size dial to select a smaller paper size such as A4R, and remove the positioning switch bracket [G] (1 screw).
13. Replace the positioning switch [H] (2 screws).

NOTE: When reassembling, make sure that the ends with the holes [I] are at front.

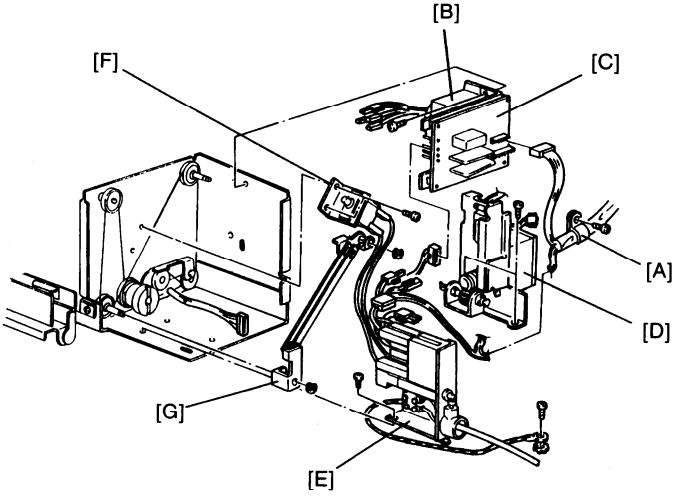
7.2 Paper Size Sensor Replacement



1. Do steps 1 to 11 of tray down sensor and positioning switch replacement.
2. Remove the front guide post [A] (1 screw).
3. Remove the paper size sensor bracket [B].
4. Replace the paper size sensor [C] (1 screw).

NOTE: When reinstalling the sensor bracket, make sure that the harness [D] is positioned inside the sensor bracket.

7.3 Tray Wire Replacement



Unplug the tray power supply cord.

- Front Wire -

Remove the following parts:

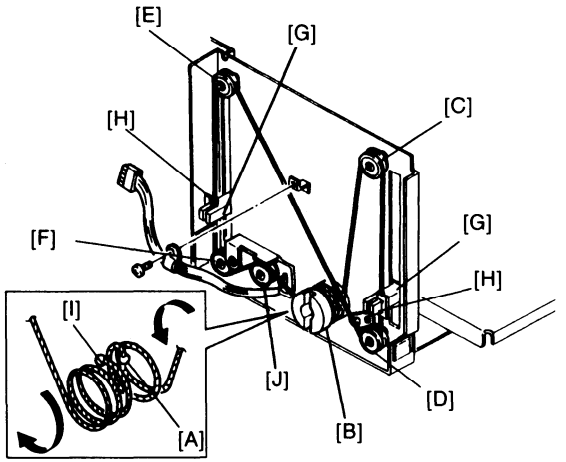
- Front cover (2 screws and 1 connector)
- Nylon clamp [A] holding the operation board harness (1 screw)

- Rear Wire -

Remove the following parts:

- Rear cover (4 screws)
- Transformer assembly [B] with tray main board [C] (1 screw, 5 connectors, and 1 nylon clamp)
- Drive motor assembly [D] (2 screws and 2 connectors)
- Ac power terminal [E] (2 screws) and safety switch assembly [F] (2 short screws)
- Safety switch actuator assembly [G] (2 E-rings)

- Common Procedure for Front and Rear Wire -

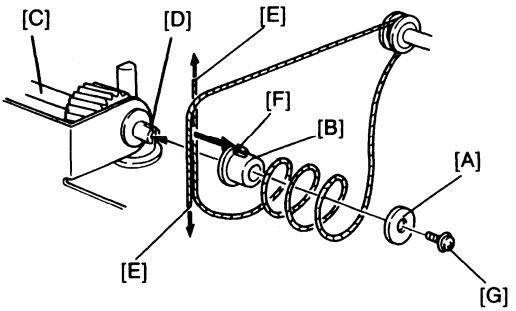


The front and rear wires run in opposite directions.

1. Loosen the wire tightener (1 screw).
2. Insert the bead [A] (unmarked) into the slot on the drive pulley [B].
3. Loop the wire one-and-a-half turns around the drive pulley as shown.
4. Run the wire over WP1 [C], WP2 [D], WP3 [E], and WP4 [F] in turn while also placing the lift rod's ends [G] in the braces [H].
5. Insert the bead (red) [I] into the slot on the drive pulley.
6. Loop the wire two-and-a-half turns around the drive pulley as shown.
7. Hang the wire on the tension pulley [J].

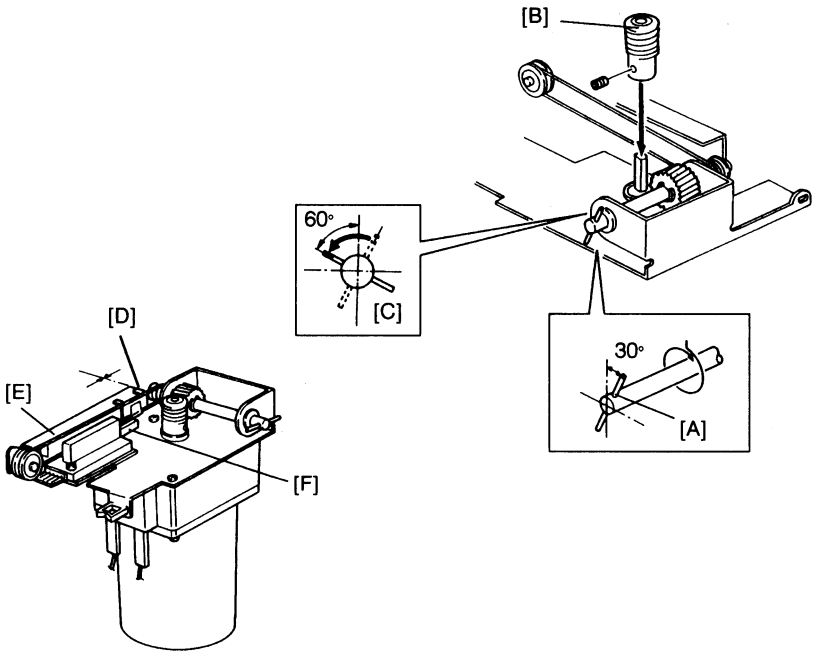
8. Move the rods up and down manually to ensure that the drive wire does not overlap on the pulley.
9. Tighten the wire via the tension (1 screw).
10. Reassemble.

7.4 Paper Volume Cord Replacement



1. Unplug the tray and remove the rear cover (4 screws).
2. Remove the transformer assembly with the tray main board (1 screw, 5 connectors, and 1 nylon clamp).
3. Remove the drive motor assembly with the paper volume detection assembly (2 screws and 2 connectors).
4. Remove the drive motor worm gear (1 Allen screw).
5. Remove the washer [A] and the paper volume cord pulley [B] (1 screw).
6. Rotate the drive shaft [C] so that the slot [D] is vertical, then secure the shaft with tape.
7. Insert both ends of the paper volume cord [E] into the slot [F] of the paper volume cord pulley and run the cord as shown in the figure.
8. Insert the paper volume cord pulley and washer. Partially tighten the screw [G].

NOTE: Align the slot of the paper volume string pulley with the slot of the drive shaft.



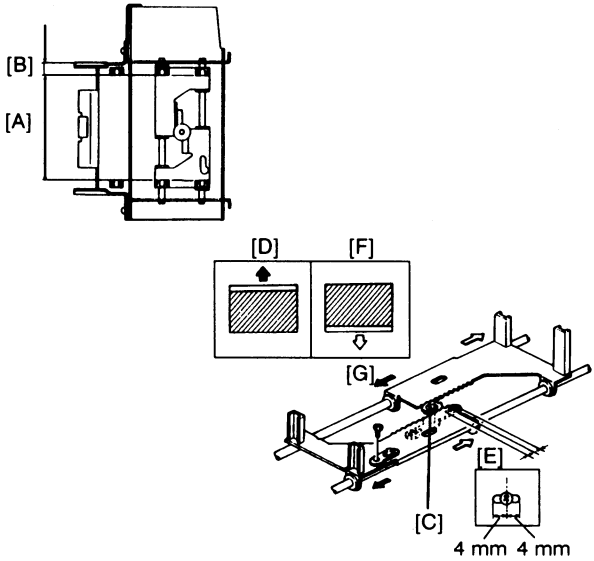
9. Pull the ends of the cord to stretch it before tightening the screw and cutting off the excess cord.

10. Remove the tape on the drive shaft and turn the drive pin [A] 330° in the direction shown in the figure.

11. Set the drive motor worm gear [B] on the motor shaft and make sure the angle of the drive pin is as shown in the figure [C].

12. Align the edge [D] of the paper volume sensor actuator plate with the bracket [E] as shown and secure the actuator plate with tape [F].

7.5 Side Registration Adjustment

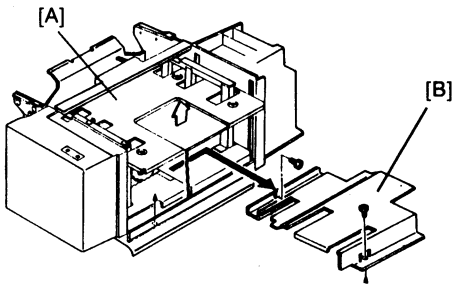


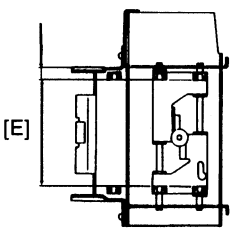
ADJUSTMENT STANDARD: A = 297 to 299.5 mm
B = 14.0 ± 1 mm

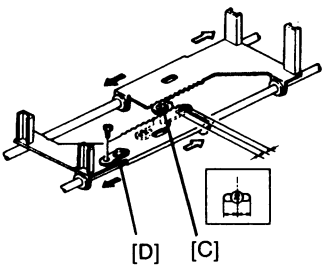
The pinion bracket [C] has 8 mm of play for side registration adjustment.

If the image is shifted to the front [D], move the pinion bracket in the direction of arrow [E]: if the image is shifted to the rear [F], move the pinion in the direction of arrow [G].

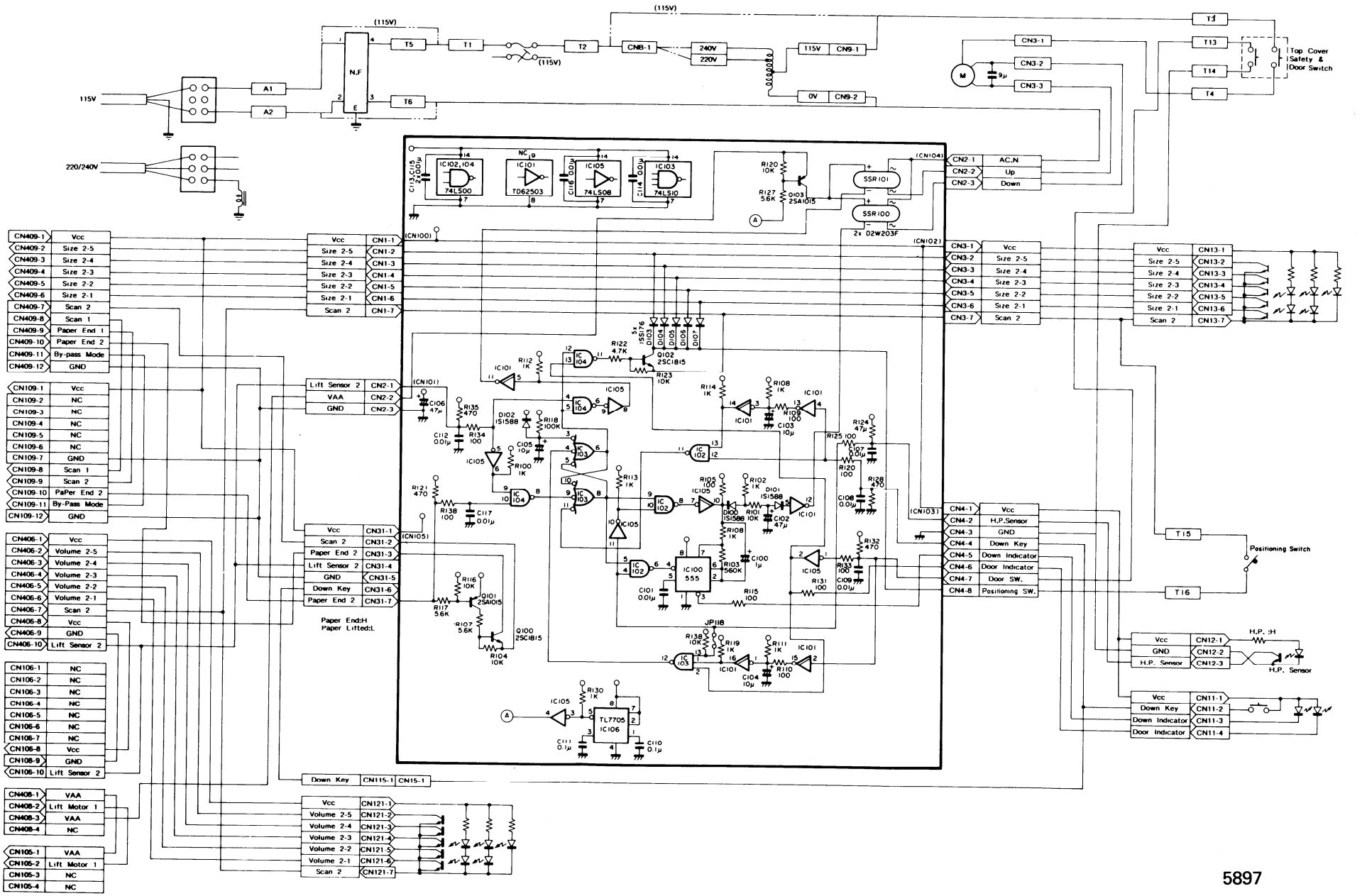
1. Rotate the paper size dial to A4. Do not move the paper size dial again while performing this adjustment.
2. Raise the tray bottom plate [A].
3. Turn off the main switch.
4. Remove the front inner cover [B] (2 screws).







5. Loosen the 2 screws securing the pinion bracket [C].
6. Loosen the screw securing the guide post lock plate [D].
7. Move the pinion bracket while holding the pinion so that the pinion does not turn. (The front and rear guide posts must be equidistant from the center.)
8. Tighten the screws securing the pinion bracket.
9. Tighten the screws securing the guide post lock plates.
10. Confirm that the length between the guide posts [E] is within the standard value range (297 to 299.5).
11. Confirm that the side registration is adjusted correctly and reassemble.


115V
220/240V
A1
A2
N.F
T5
T1
T2
T6
(115V)
CN8-1
240V
220V
115V CN9-1
0V CN9-2
T3
T13
T14
T4
Top Cover Safety & Door Switch
CN3-1
CN3-2
CN3-3
9µ
M
74LS00
TD62503
74LS08
74LS10
SSR101
SSR100
2x D2W203F
2SA1015
CN2-1 AC.N
CN2-2 Up
CN2-3 Down
(CN100)
(CN101)
(CN102)
(CN103)
(CN104)
(CN105)
CN1-1 Vcc
CN1-2 Size 2-5
CN1-3 Size 2-4
CN1-4 Size 2-3
CN1-5 Size 2-2
CN1-6 Size 2-1
CN1-7 Scan 2
CN2-1 Lift Sensor 2
CN2-2 VAA
CN2-3 GND
CN3-1 Vcc
CN3-2 Size 2-5
CN3-3 Size 2-4
CN3-4 Size 2-3
CN3-5 Size 2-2
CN3-6 Size 2-1
CN3-7 Scan 2
CN4-1 Vcc
CN4-2 H.P.Sensor
CN4-3 GND
CN4-4 Down Key
CN4-5 Down Indicator
CN4-6 Door Indicator
CN4-7 Door SW.
CN4-8 Positioning SW.
CN31-1 Vcc
CN31-2 Scan 2
CN31-3 Paper End 2
CN31-4 Lift Sensor 2
CN31-5 GND
CN31-6 Down Key
CN31-7 Paper End 2
Paper End:H
Paper Lifted:L
CN115-1 Down Key
CN15-1
CN121-1 Vcc
CN121-2 Volume 2-5
CN121-3 Volume 2-4
CN121-4 Volume 2-3
CN121-5 Volume 2-2
CN121-6 Volume 2-1
CN121-7 Scan 2
CN13-1 Vcc
CN13-2 Size 2-5
CN13-3 Size 2-4
CN13-4 Size 2-3
CN13-5 Size 2-2
CN13-6 Size 2-1
CN13-7 Scan 2
CN12-1 Vcc
CN12-2 GND
CN12-3 H.P. Sensor
H.P. :H
H.P. Sensor
CN11-1 Vcc
CN11-2 Down Key
CN11-3 Down Indicator
CN11-4 Door Indicator
T15
T16
Positioning Switch
CN409-1 Vcc
CN409-2 Size 2-5
CN409-3 Size 2-4
CN409-4 Size 2-3
CN409-5 Size 2-2
CN409-6 Size 2-1
CN409-7 Scan 2
CN409-8 Scan 1
CN409-9 Paper End 1
CN409-10 Paper End 2
CN409-11 By-pass Mode
CN409-12 GND
CN109-1 Vcc
CN109-2 NC
CN109-3 NC
CN109-4 NC
CN109-5 NC
CN109-6 NC
CN109-7 GND
CN109-8 Scan 1
CN109-9 Scan 2
CN109-10 PaPer End 2
CN109-11 By-Pass Mode
CN109-12 GND
CN406-1 Vcc
CN406-2 Volume 2-5
CN406-3 Volume 2-4
CN406-4 Volume 2-3
CN406-5 Volume 2-2
CN406-6 Volume 2-1
CN406-7 Scan 2
CN406-8 Vcc
CN406-9 GND
CN406-10 Lift Sensor 2
CN106-1 NC
CN106-2 NC
CN106-3 NC
CN106-4 NC
CN106-5 NC
CN106-6 NC
CN106-7 NC
CN106-8 Vcc
CN106-9 GND
CN106-10 Lift Sensor 2
CN408-1 VAA
CN408-2 Lift Motor 1
CN408-3 VAA
CN408-4 NC
CN105-1 VAA
CN105-2 Lift Motor 1
CN105-3 NC
CN105-4 NC
IC102,104
IC101
IC105
IC103
IC100
IC106
TL7705
555
5x ISS176
Q102 2SC1815
Q100 2SC1815
Q101 2SA1015
Q103 2SA1015
D102 ISS88
D100 ISS88
D101 ISS88
JP118
5897