SECTION 12

CS1020

12. CS1020

12-1 Unpacking Procedure 12- 1

12-2 Accessory Check 12- 2

12-3 Removal of Shipping Retainers 12- 3

12-4 Checking Points 12- 6

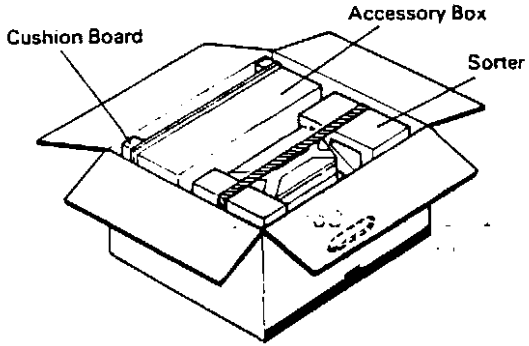
12-5 Installation Procedure 12- 8

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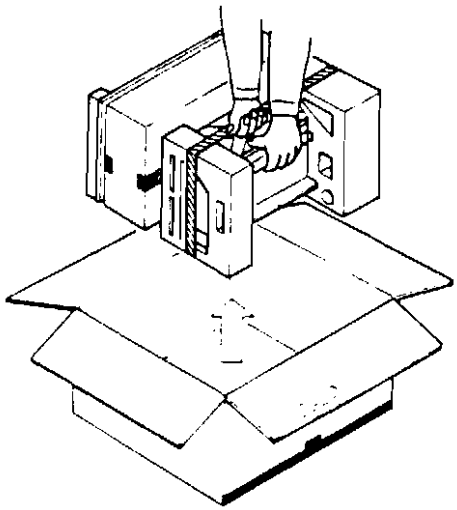
12-7 Adjustment and Replacement 12-14

12-1. Unpacking Procedure

1) Open the shipping box.



2) Take out cushion board and the accessory box; then, take out the sorter together with the cushion blocks.



3) Take off the cushion blocks and take the sorter out of the plastic bag.
Take the accessories out of the accessory box.

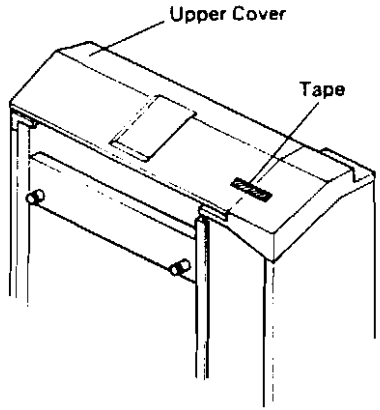
12-2. Accessory Check

Check quantity and condition of the accessories according to the New Equipment Condition Report or the following list.

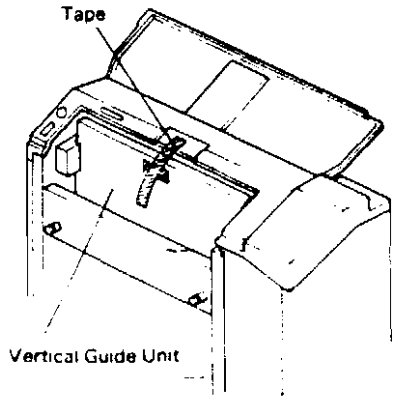
1) New Equipment Condition Report 1
2) Studs for Connection 2
3) Knob Screw 1
4) Signal Cable 1
5) 12P Harness 1
6) 10 Standard Bins and 1 Interrupt Bin ... 1
7) Original Receiver 1
8) Philips Screw with Flat Washer 2
9) Envelope for NECR (115V only) 1
10) Installation Procedure 1
11) Connector Holder 2
12) Pan Head Screw M4 x 6 2

12-3. Removal of Shipping Retainers

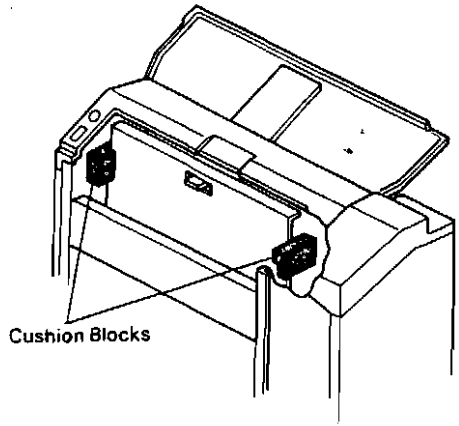
1) Remove the tape holding the upper cover.



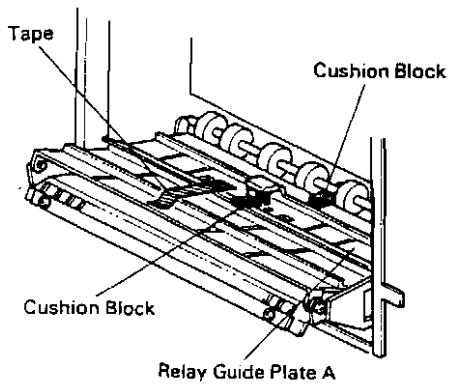
2) Open the upper cover and remove the tape holding vertical guide unit.



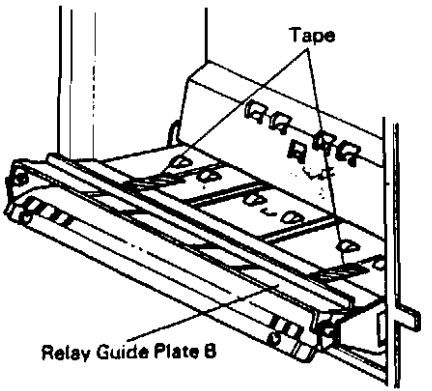
3) Take out the two cushion blocks.



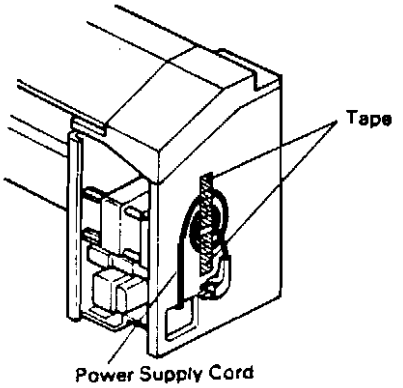
4) Remove the tape holding relay guide plate A and take out the cushion blocks.



5) Remove the two pieces of tape holding relay guide plate B.

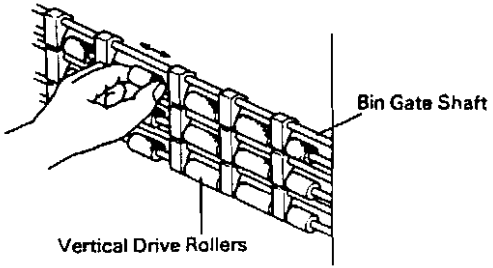


6) Remove the tape holding the power supply cord.



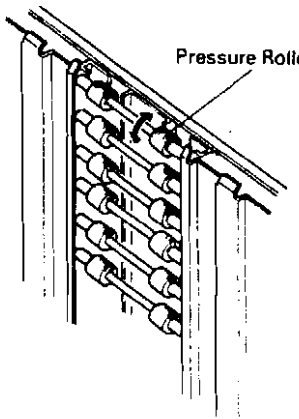
12-4. Checking Points

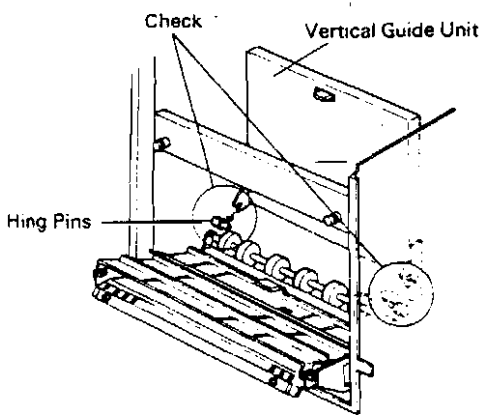
1) Check the thrust play of the vertical drive rollers, (0.2 to 0.8 mm), and the bin gate shaft (0.1 to 0.5 mm)



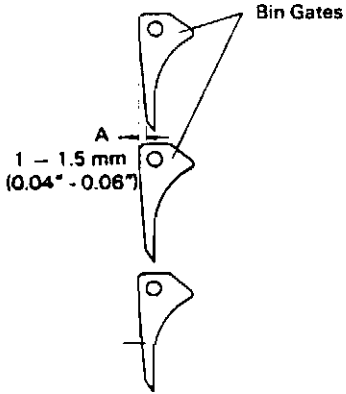
2) Open the upper cover and check that the pressure rollers turn smoothly, and that the vertical guide unit is correctly set on the hinge pins as shown to the right.

NOTE: Since the transport guide unit can be easily removed to clear jams, you must also make sure the user understands how to set the unit correctly.





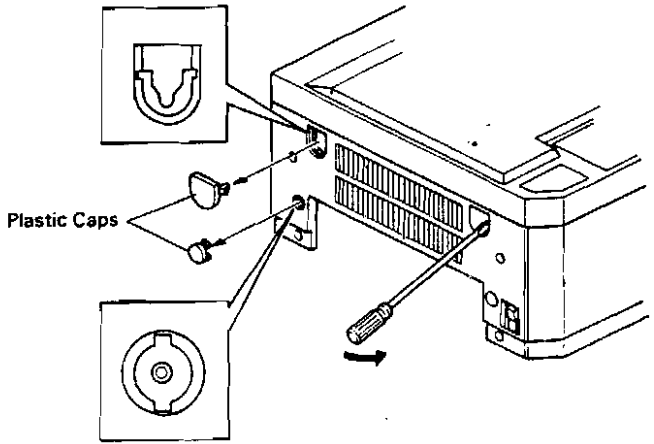
3) Visually check that the bin gates do not protrude into the paper path.
(Gap A must be 1 to 1.5 mm)
4) Check that the bin gates pivot smoothly.



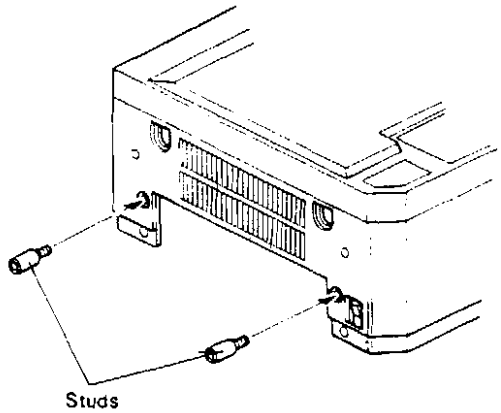
12-5. Installation Procedure

1) Remove the four plastic caps from the docking holes.

NOTE: If the DF10 is mounted on the machine, remove the original receiving tray and reinstall two screws.



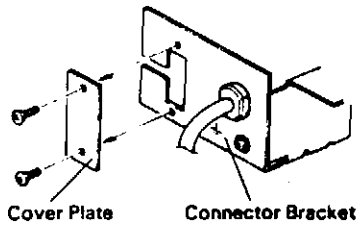
2) Screw in the lower mounting studs.



3) Take off the rear cover. • 2 screws

4) Remove the cover plate from the connector bracket.

2 screws



5)

a). Bend down C156, C157, and RAY108 on the copier main PCB as shown to the left.

b). Connect the 18P adapt harness to CN402 o the interface PCB.

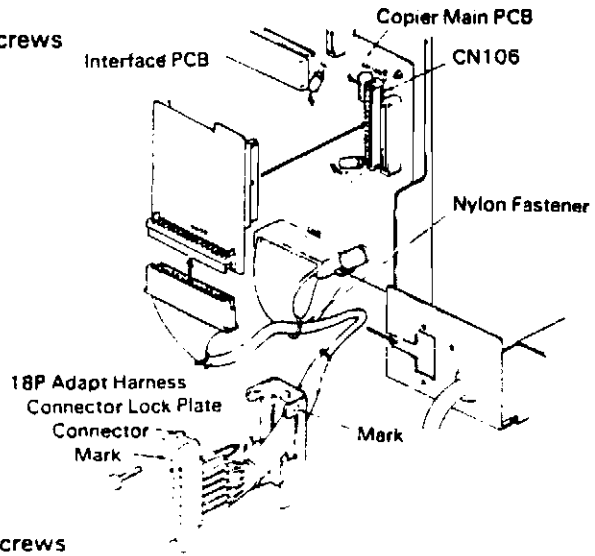
c). Install the interface PCB to CN106 on the copier main PCB.

d). Bind the 18P adapt harness to the harness from CN103 with a nylon fastener.

e). Mount the connector for the signal cable on the connector bracket as shown to the left.

Note: Triangle mark on both the connector and the connector lock plate should be positioned upward.

• 2 screws



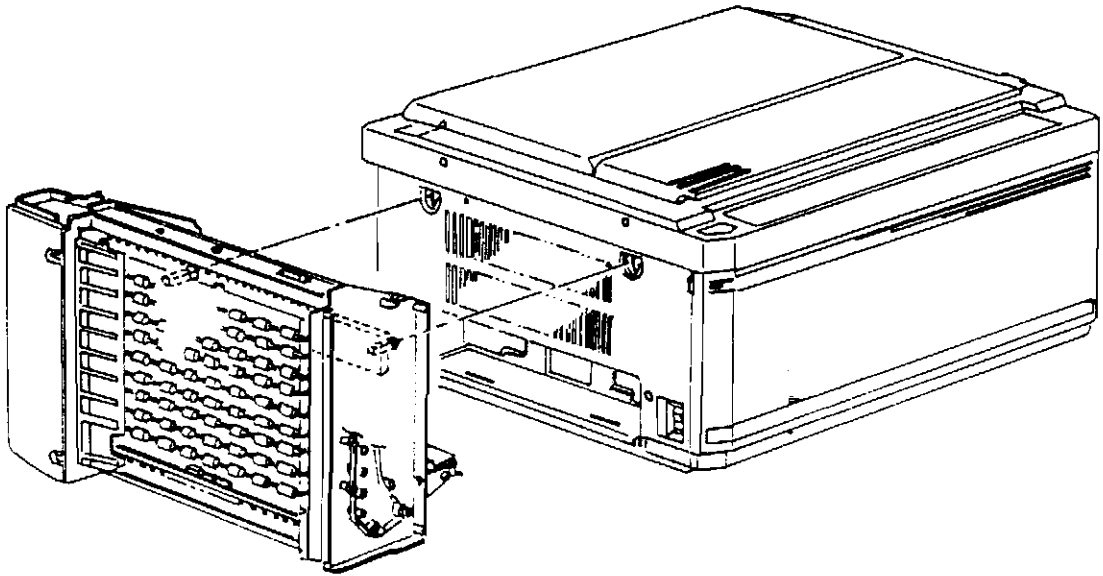
— **Sorter** —

6) Take off the upper cover and the front cover of the sorter.

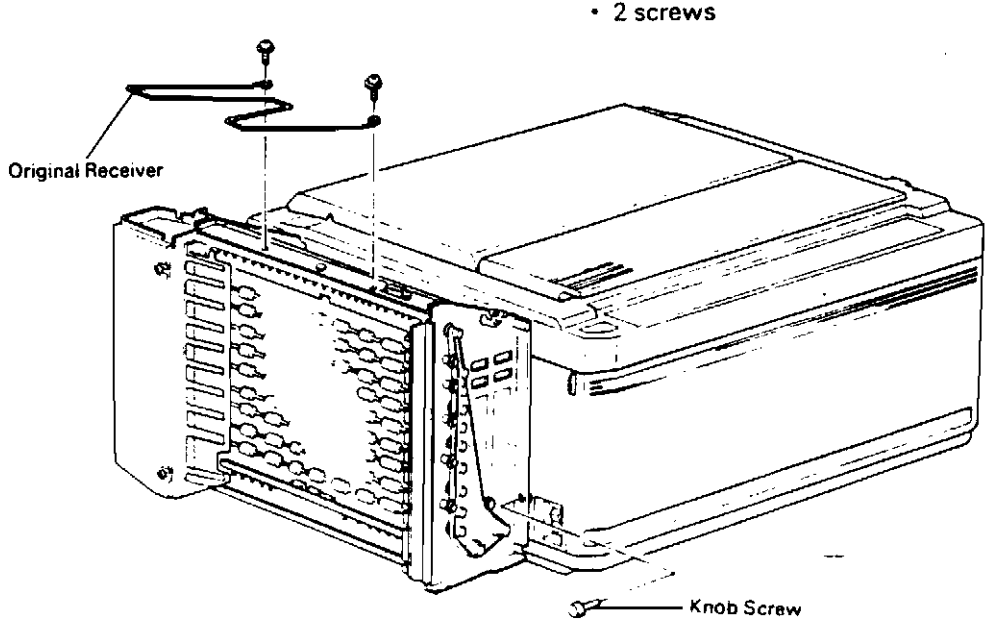
• 3 screws
2 screws

7) Mount the sorter on the copier as shown below.

NOTE: It is possible for one man to mount the sorter, but for safety purposes, two people should do it.

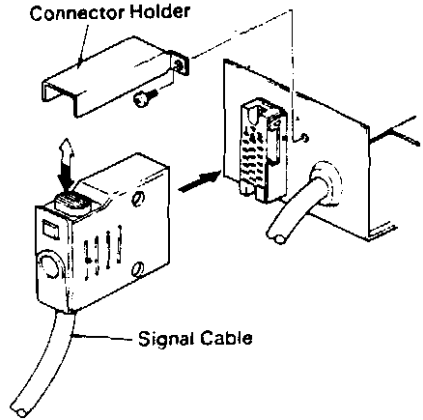


8) Fix the sorter to the copier with a knob screw, and mount the wire original receiver on the sorter as shown below.



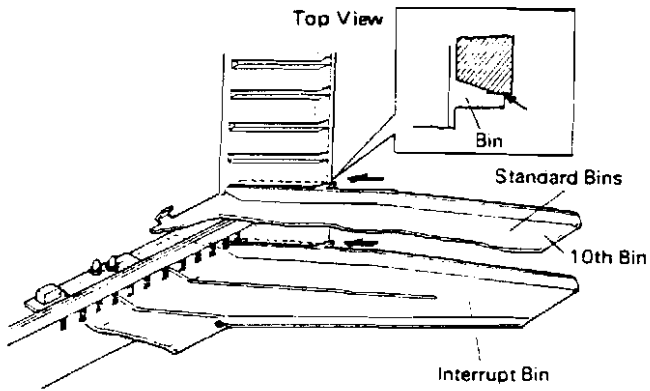
9) Remount the front and upper covers of the sorter and the rear cover of the copier.

10) After confirming that the main switch is off, connect the signal cable between the copier and sorter, and plug in the sorter and install the connector holder.



11) Set the bins from bottom to top starting with the interrupt bin. Make sure each bin is fully set as shown to the right.

NOTE: The standard bin without untistatic brush should be mounted in the 10th bin position.



12-6. Operation Check

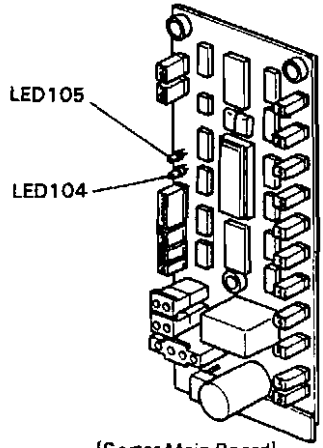
1) Turn on the main switch.
2) Press the sort and stack keys and check that the each indicator turns on correctly.
3) Insert a sheet of paper into the first bin.
4) Press the sort key. The print key should change from green to red.
   Then take out the sheet. The print key should change back to green.
5) Repeat steps 3 and 4 using the stack key.
6) Open the sorter cover. The check sorter indicator (⊱) should light.
7) Press the sort key and then enter 11 copies. The print key should change from green to red.
8) Press the stack key and enter 41 copies. The print key should change from green to red.

CAUTION: Do not remove the signal cable without first turning off main switch.

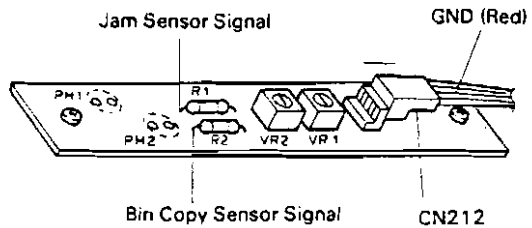
12-7. Adjustment and Replacement

— Bin Copy Sensor Adjustment —

1. Operate the copier in free run mode (DIP SW100 #1, on the main PCB) for three minutes. (To allow the sensors to warm up.)
2. Confirm that there is no paper in bins.
3. Check the voltage of the sensor signal by connecting the hot line of the tester to the rear side of "R2", and the neutral line to CN212-2 (red, ground).
   Adjustment Standard: + 7.5 to + 8.0V (LED105: OFF)
4. Adjust with VR2.
5. Place a sheet of translucent paper in a bin.
6. Check the voltage.
   Adjustment Standard: Less than + 2.0V (LED105: ON)
   NOTE: LED105 will light when the sensor signal voltage is less than +5.95V.

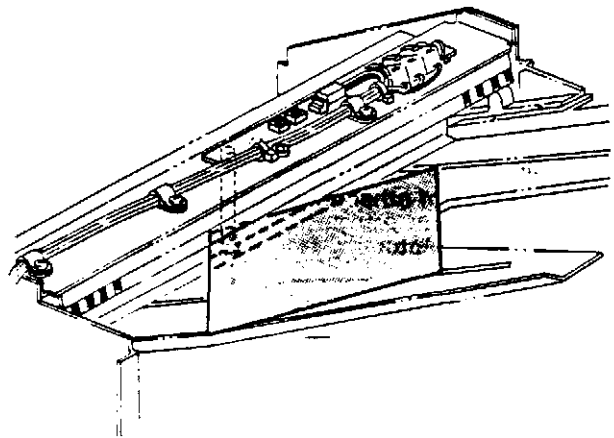


[Sorter Main Board]



– Jam Sensor Adjustment –

1. Operate the copier in free run mode (DIP Sw100 #1, on the main PCB) for three minutes. (To allow the sensors to warm up.)
2. Confirm that three is no paper in bins and between the vertical drive rollers.
3. Check the voltage of the sensor signal by connecting the hot line of the tester to the rear side of "R1", and the neutral line to CN212-2 (red, ground).
   Adjustment Standard: + 7.5 to + 8.0V (LED104: OFF)
4. Adjust with VR1.
5. Place a sheet of translucent paper in a bin.
6. Check the voltage.
   Adjustment Standard: Less than + 2.0V (LED104: ON)
   NOTE: LED104 will light when the sensor signal voltage is less than +5.95V.



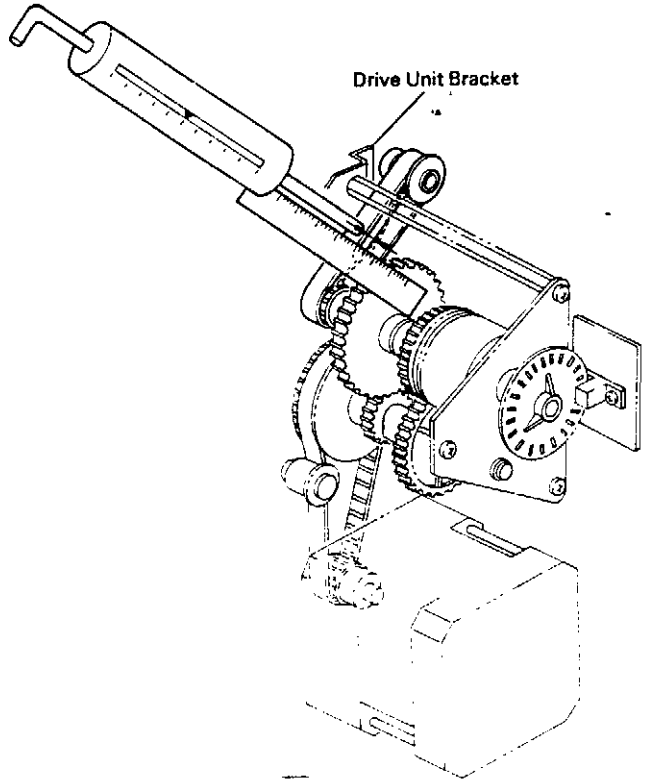
— Timing Belt Tension —

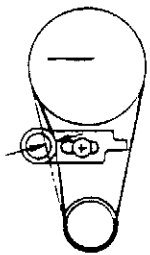
Push in the timing belt at the point shown with a tension gauge.

Adjust the drive unit bracket position so that the tension gauge reads 500g at 3 to 5 mm deflection of the timing belt.

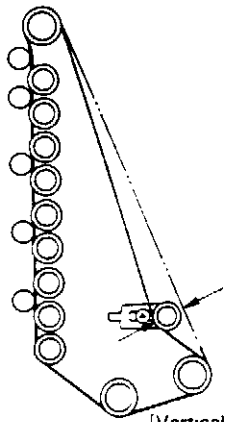
Tension of other timing belts:

Main Motor	3 to 5mm at 500g (0.12" - 0.2")
Vertical Drive Roller	10 to 13mm at (0.39" - 0.51") 500g





[Main Motor]



[Vertical Drive Roller]

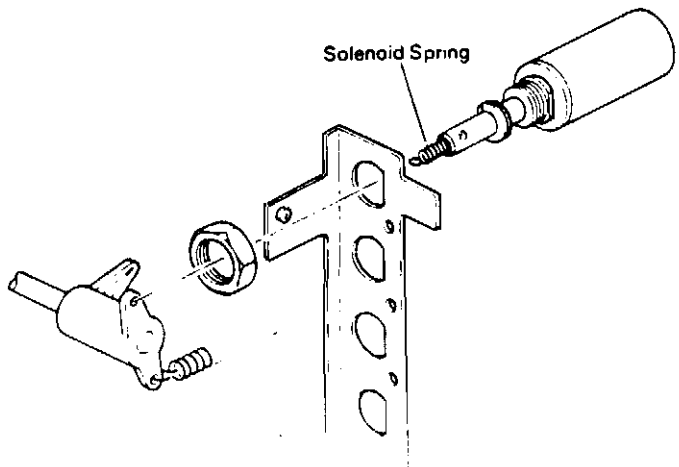
— Gate Solenoid Replacement —

1) Take off the top cover and rear cover.
2) Disconnect all connectors from the sorter CPU board.
3) Remove the CPU board together with its bracket.
4) Loosen the three screws securing the solenoid bracket.
5) Unhook the solenoid spring.
6) Replace the solenoid and reassemble the sorter.

NOTE: 1. Check the thrust play of the bin gate shaft (0.1 to 0.5 mm).
2. Check that the bin gates pivot smoothly.

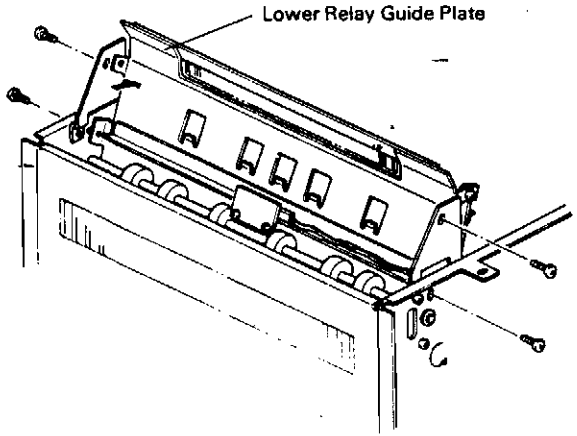
• 4 screws

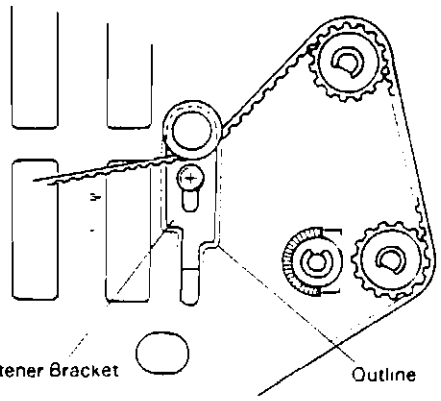
• 2 screws



– Sponge Roller Replacement –

1) Remove all bins and take the sorter off of the copier.
2) Take off the rear sorter cover and remove the transformer. • 4 screws, 2 screws, 3 connectors
3) Lay the sorter on its side.
4) Remove the upper 4 screws and loosen the lower 2 screws holding the lower relay guide plate.
5) Draw the outline of the belt tightener bracket on the side plate. (This is to make readjustment easier during reassembly.)
6) Remove the belt tightener bracket. • 1 screw
7) Remove the sponge roller drive pulley and bearing from the front end of the shaft, and remove the bushing from the rear end of the shaft. • 1 E-ring each end
8) Replace the sponge roller shaft.





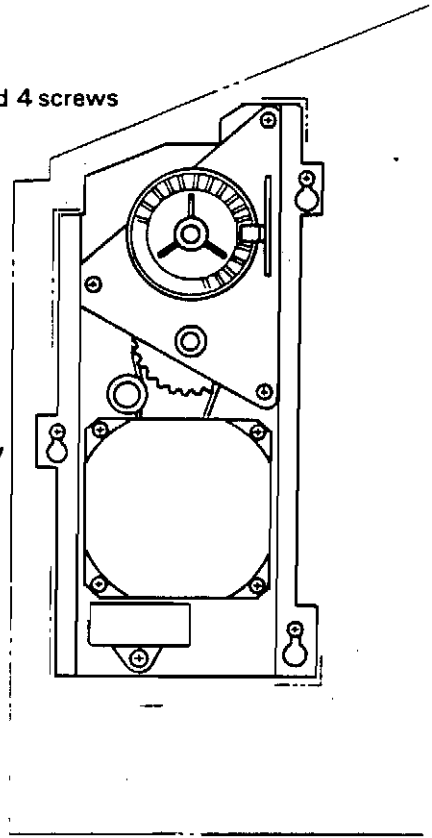
— Speed-up Clutch Replacement —

1) Take off the top cover and rear cover.
2) Draw the outline of the drive unit bracket on the side plate.
3) Loosen the three screws securing the drive unit bracket, and take off the wire clamp bracket.
4) Uncouple the drive motor, speed-up clutch, and pulse generator connectors.
5) Lift off the drive unit.
6) Remove the pulse generator PCB and perforated disk.

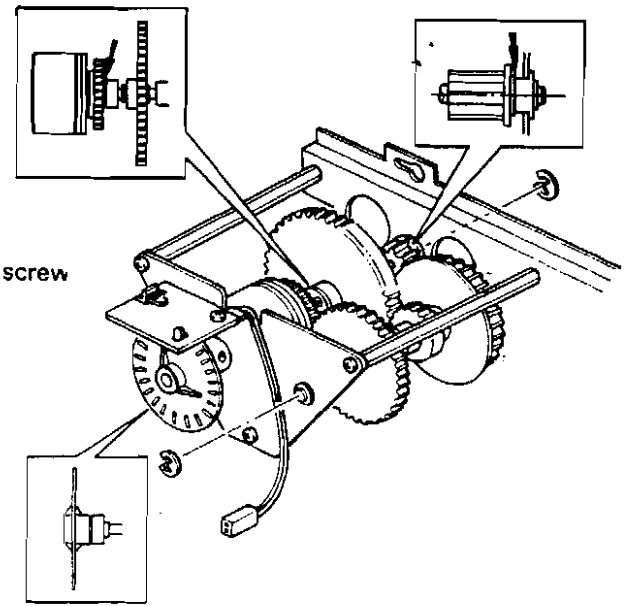
• 3 screws and 4 screws

• 1 screw

• 1 screw
1 allen screw



7) Take off the two E-rings and bearings shown. (Don't lose the small bearings)
8) Remove the three screws holding the stay plate and take off the speed up clutch together with the shaft and plate.
9) Take off the belt pulley and the large gear. • 1 allen screw 1 E-ring
10) Remove the collar and stay plate. • 1 allen screw and 2 screws
11) Take off the inside collar. • 1 E-ring, 1 allen screw
12) Install a new speed-up clutch assembly.
(The replacement part consists of the clutch, shaft, and high speed gear.)



— Reassembly Notes —

1) Make sure to mount the stay plate with the pulse counter mount pointing outward.
2) The large (low speed) gear must be mounted with the one way clutch facing inward.
3) Mount the perforated disk with the Allen screw side in, and tighten the Allen screw on the flat surface of the shaft.
4) Do not tighten the Allen screw of the timing belt pulley until after reinstalling the shaft bearings.

— Cover Safety Switch Replacement —

1) Take off the top cover and rear cover. • 3 screw and 4 screws
2) Take off the switch bracket. • 2 screws
3) Remove the four wire clamps from the safety switch harness. • 4 screws
4) Uncouple the five connectors.
5) Cut off the five wire binders holding the harness, and replace the safety switch assembly.

NOTE: When mounting the new switch harness, make sure the wire clamps are oriented as shown in the figure to the right. If they are mounted in the other direction, the upper cover cannot be mounted.

