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imageRUNNER ADVANCE C2030i	
imageRUNNER ADVANCE C2030L	
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iR-ADV C2230I	
Revised:	

Location:

LASER SCANNER UNIT

Subject:

Measure to E020-1x60 immediately after replacing the drum unit

Symptom

E020-1x60 may occur immediately after replacing the drum unit.

- E020-1x60: Detected light patch reading value (X:0=Y, 1=M, 2=C, 3=K)

Cause

The laser scanner unit is assembled in clean room so that no dust can get inside which causes faulty images. Also the seams of the housing are sealed up to shut out dusts from the operation environment. However, small particles of 1 micrometer or less may invade inside the machine depending upon the operation environment, and the invaded small particles may soil the polygon mirrors. This soiling diminished laser intensity that led to the above mentioned symptom.
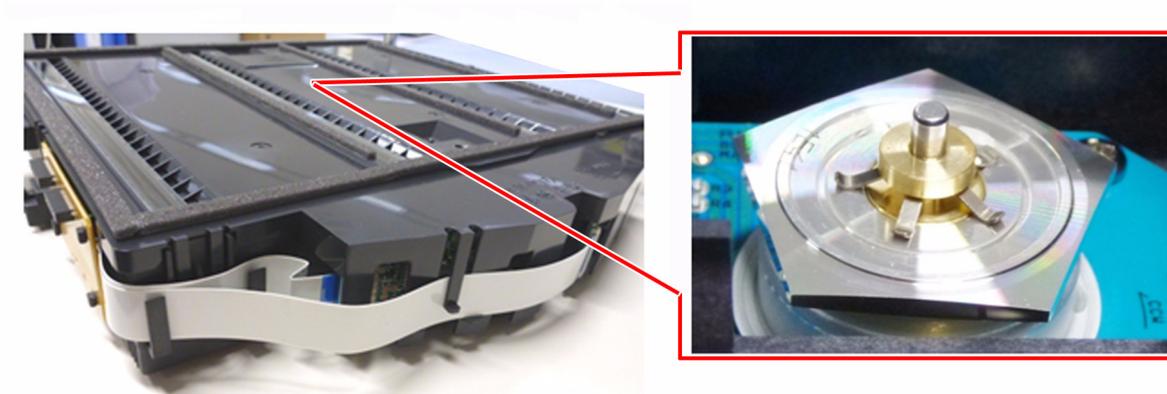
Service work

Distinguish if the polygon mirrors are soiled by following the procedure below. If the cleaning of the polygon mirrors are required after this work, perform the cleaning following "B. Procedure to clean the polygon mirrors" hereinafter described.

[Caution] During the cleaning procedure to be described, disassembly in field environment may allow dusts get inside. Therefore be careful not to allow dusts get inside as far as possible.

A. Procedure to distinguish the soiled polygon mirrors

Way to distinguish 1

If the polygon mirrors inside the laser scanner unit are soiled, the laser intensity is diminished and the density of the end of the image within the red circled parts come out lighter. The sample below is test print of PG-TYPE:16. Because the writing direction of the laser is different between Y/M and C/K, the directions come out lighter are different, that is, [A] sides come out lighter with Y and M, [B] sides with C and K. [C] indicates the direction of feeding paper.
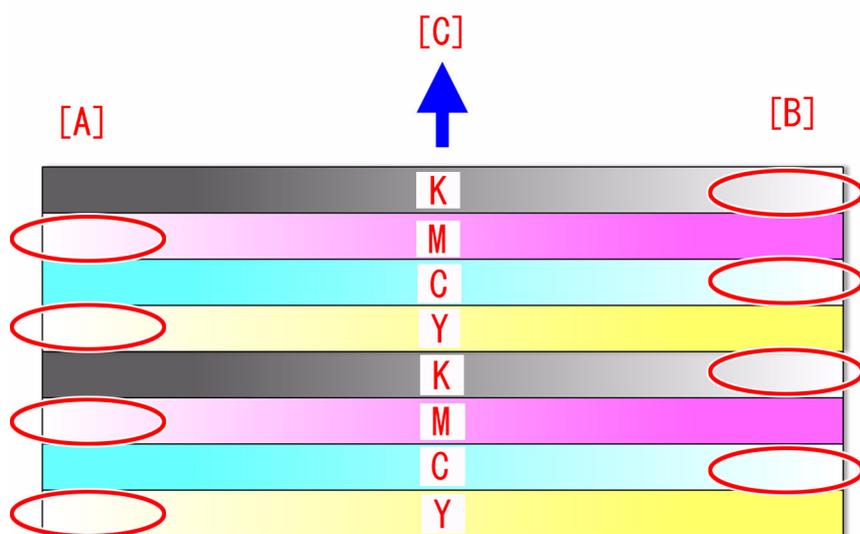
1) Set the replaced old drum temporarily and turn the main power on.

2) Go to Service mode > Mode List > COPIER > Test > PG > PG-PICK and select the paper source of "A4" or "LTR" paper.

3) Go to Service mode > Mode List > COPIER > Test > PG > PG-TYPE and enter "16", push "OK" key and then "Start" button.

[Reference] When outputting the test print of PG-TYPE: 16, the density is fixed to "160" regardless of the set values in DENS-Y/M/C/K.

4) Check to see if the light image is not generated on [A] sides of Y/M or on [B] sides of C/K with the test print output in the step 3). If the light image is generated, then go to "B. Procedure to clean the polygon mirrors". If it is difficult to check whether the image is light or not, then go to "Way to distinguish 2".

Way to distinguish 2

1) Go to Service mode > Mode List > COPIER > Test > PG > PG-PICK and select the paper source of "A4" or "LTR" paper.

2) Go to Service Mode > Mode List > COPIER > Test > PG > PG-TYPE and enter "5".

3) Go to Service Mode > Mode List > COPIER > Test > PG >, set DENS-Y/M/C/K as shown in the table below, then output test print of halftone for each color.

T-1

	DENS-Y	DENS-M	DENS-C	DENS-K
Yellow halftone image	128	0	0	0

|	DENS-Y	DENS-M	DENS-C	DENS-K
Magenta halftone image	0	128	0	0
Cyan halftone image	0	0	128	0
Black halftone image	0	0	0	128

In the test print of halftone with the above mentioned settings, if a sample image is output in lighter color such as the red circled [a] parts as shown below, go to "B. Procedure to clean the polygon mirrors". The arrow indicates the direction of feeding paper.

If the light image is not generated, then check other factors.
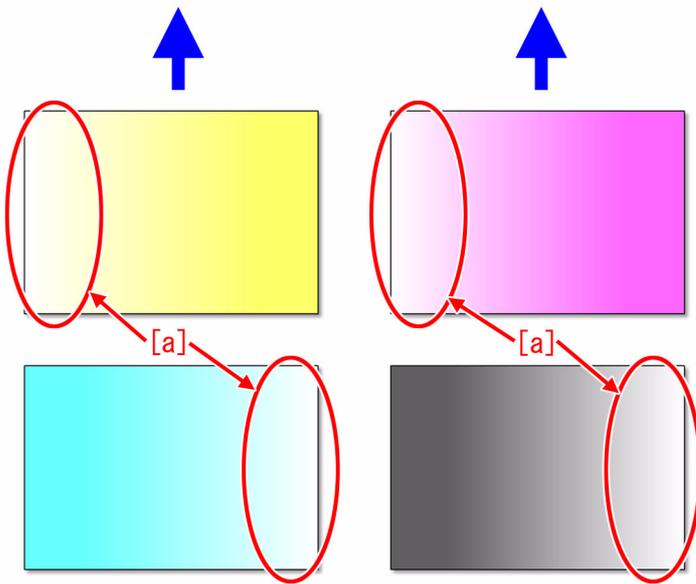

B. Procedure to clean the polygon mirrors

1) Turn off the main power SW, and pull the cassette 1 out of main body slightly.
2) Open the front cover, and remove 1 screw to remove the left cover.
3) Remove the fan duct [1] in the direction of the arrow while removing 1 boss [a].
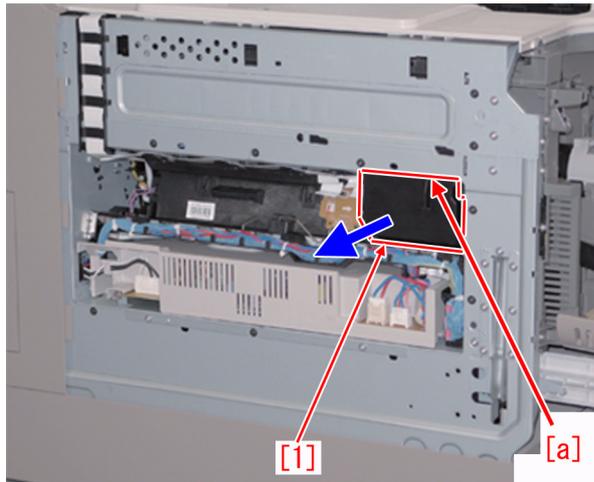
4) Disconnect the 2 flat cables and 1connector.
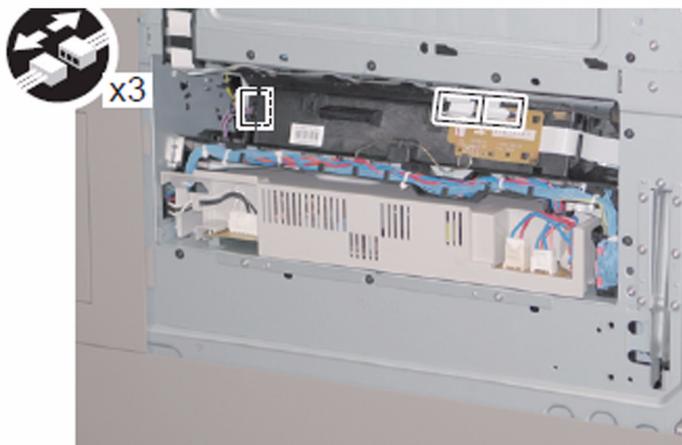
5) Push the scanner retaining spring [1] in the direction of [a] to release from the guide and then remove the same spring.
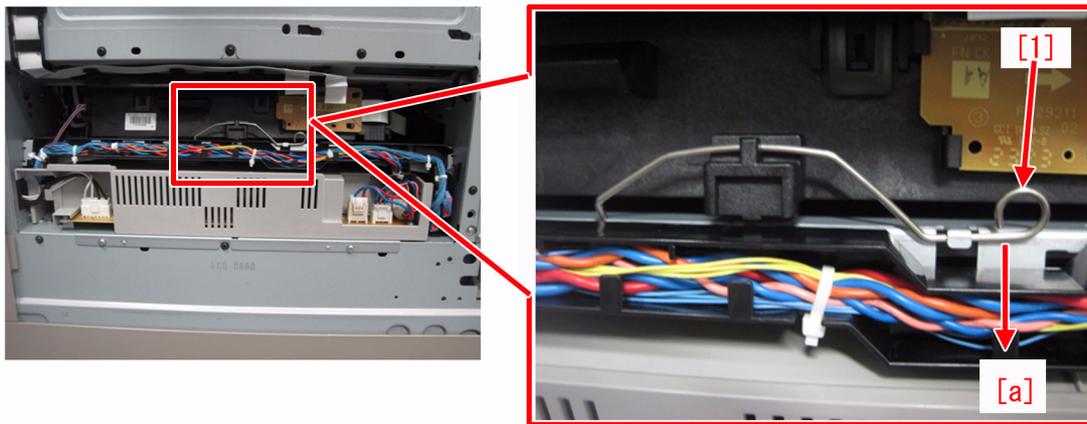
6) Unlock the protrusion [a] in the direction of [b], release the harness guide and disconnect the flat cable by moving in the direction of [c].
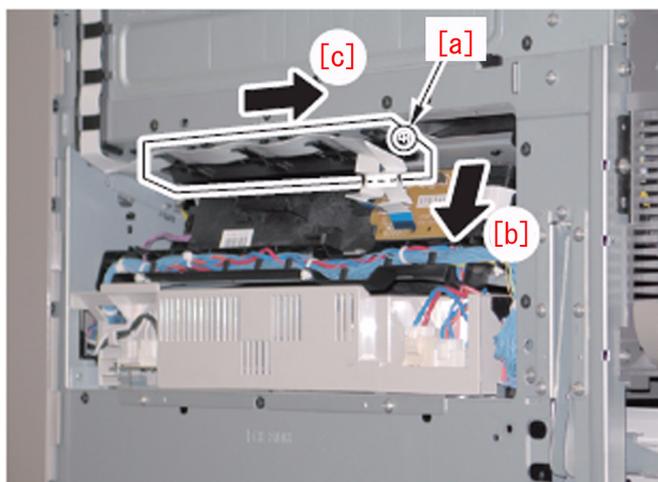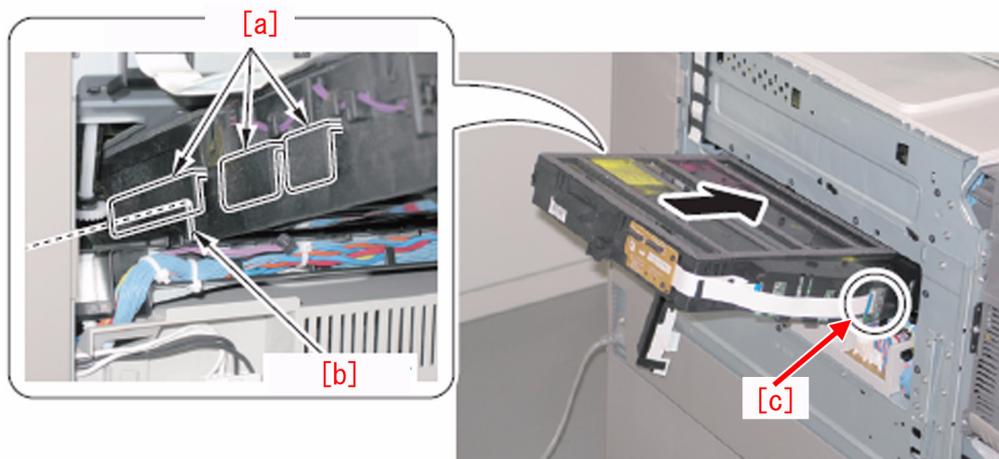

7) Lift the grip so that the protrusion [a] beneath the laser scanner unit comes off the hole [b] at the stay on the main body, and pull out the laser scanner unit.
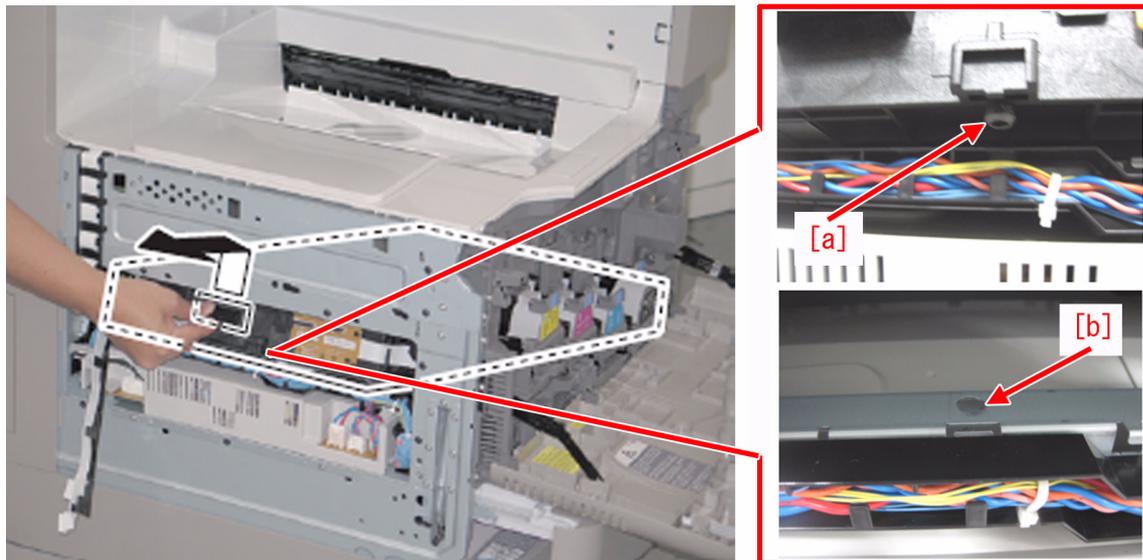
[Caution] Pay attention to the following points when to install the Laser scanner unit.
- Be sure to hook the rail on the Laser scanner unit to the rail [a] on the host machine [b] to install.
- Be sure that the flat cable [c] on the side of the Laser scanner unit is not disconnected.

- The photo [A] below indicates the condition that has a gap [b] because the protrusion [a] beneath the laser scanner unit [A] is not properly fit into the hole. Fit the protrusion [a] completely as shown in the photo [B] so that no gap is left such as [c], and then install the laser scanner unit.
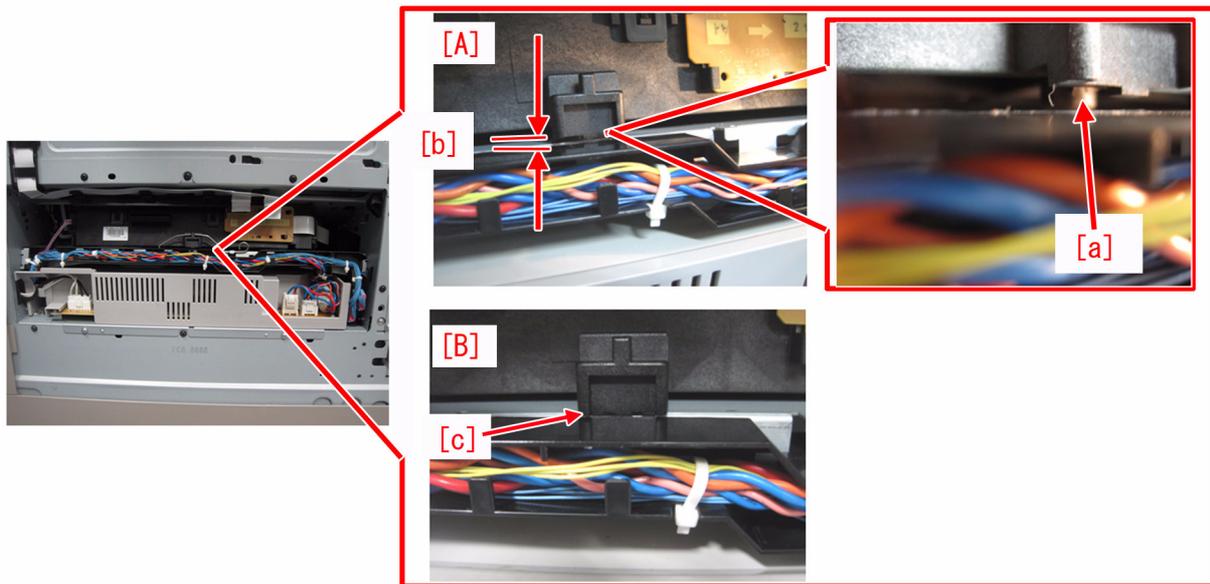
8) Remove the 2 screws [1] and the 9 cover fastening claws [a] of the laser scanner unit to detach the upper cover of the laser scanner unit.

[Caution] When detaching the cover, be sure not to touch the 4 dustproof glasses [2]. Also be careful not to give stresses to the flat cables [3] or the connectors.
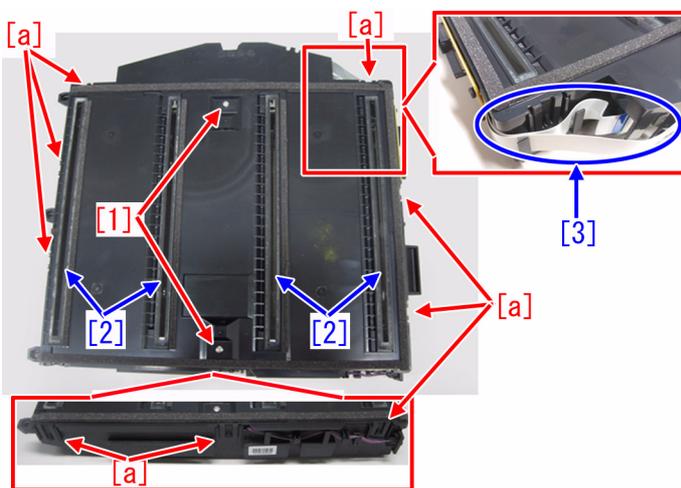

9) Fold the lint-free paper stacked in pairs three times as shown below and permeate alcohol into all the layers of the folded lint-free paper.
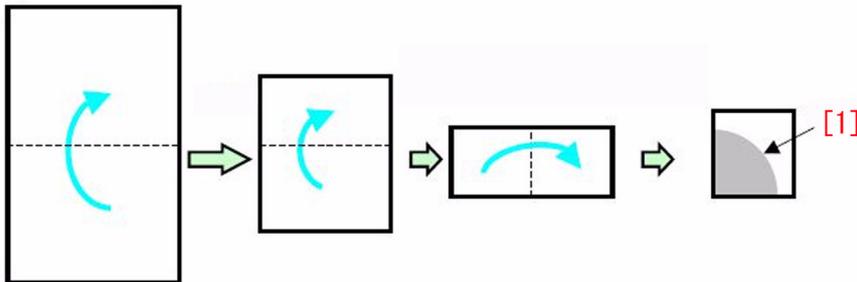
10) Be careful not to put a load to the polygon motor other than the load in the rotating direction while cleaning the polygon mirrors pinching the upper part of the polygon mirrors with fingers, by wiping twice for each face with a pressure just enough to push all the folded layers of the lint-free paper against the mirror.

[Caution] Pay attention to the following points when to clean the polygon mirrors.

- Move the lint-free paper at a constant speed to wipe a face within a motion.

- Change the part of the lint-free paper to push against the mirror after each face of the mirror has been wiped off so that not to reuse the used part of the paper for another face.

- Permeate enough alcohol into the paper again as required to avoid giving a flaw on the polygon mirrors.

- When completed all the 5 faces, look at any unevenly wiped marks left visually, and if the mark does exist, then clean them again with the alcohol permeated lint-free paper.
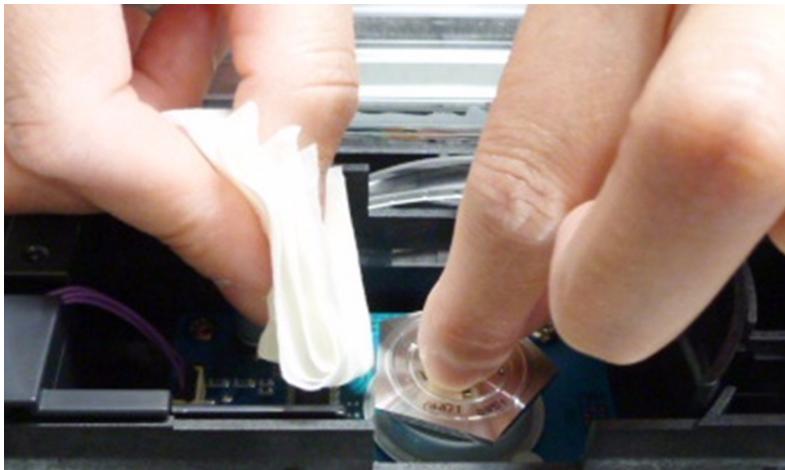

11) Blow away the dust on the reflection mirrors or the polygon mirrors inside the laser scanner unit with a blower brush. Also blow the dust inside the upper cover with a blower brush.

[Caution]

- Be sure not to leave any dust after cleaning with blower brush as the dust on the reflection mirrors or the polygon mirrors causes white streaks.

- Do not wipe on the reflection mirrors or lenses directly with the lint-free paper. Because the surface of the lens is easily scratched, also the paper dust of lint-free paper tends to remain on the surface of the mirror and the main cause
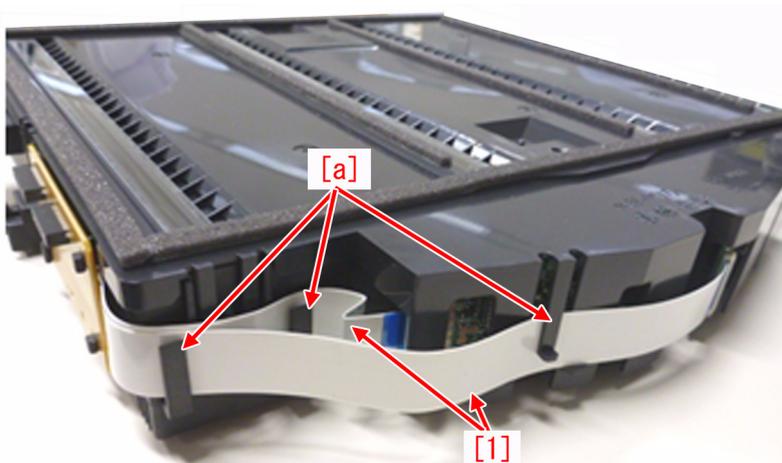
of this issue is the soiling on the polygon mirrors.
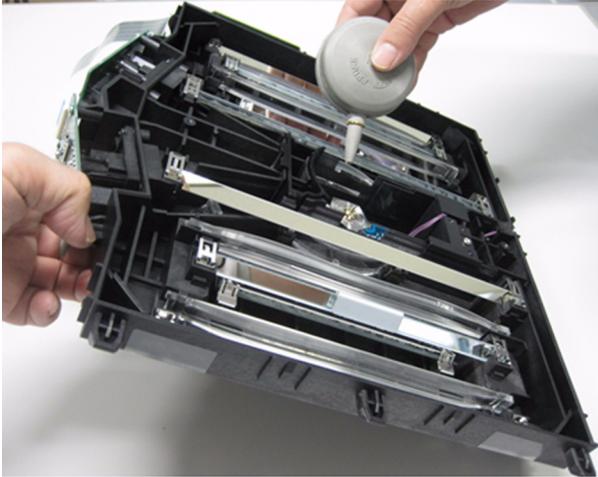
12) Fit the 9 cover fastening claws into their positions on the laser scanner unit and attach the 2 screws.

[Caution]

- Be careful not to soil the dustproof glass while attaching.
- Put the flat cable [1] through the guides [a].

13) Reassemble the parts in reverse order from the step 6).

14) Go to Service Mode > Mode List > COPIER > Test > PG >PG-PICK and select the paper source of "A4" or "LTR" paper.

15) Go to Service Mode > Mode List > COPIER > Test > PG > PG-TYPE, enter "16" and press "OK" key and then "Start" button. Check the image and if the light image is not generated, then go to the step 19). Otherwise, if light images or white streaks are generated, then go to the step 16).

[Reference] When outputting the test print of PG-TYPE: 16, the density is fixed to "160" regardless of the set values in DENS-Y/M/C/K.

16) Go to Service Mode > Mode List > COPIER > Function > MISC-P > SHT-OPEN and press "OK" to open the laser shutter.

17) Open the front door and clean the dustproof glass with the dustproof glass cleaning tool.

18) Close the front door and perform the work of the step 15) again. If the symptom does not improve, detach the laser scanner unit again, clean inside the laser scanner unit with a blow brush, revert back the laser scanner unit and repeat the same works from the step 14).

19) Revert the drum to the new one at the time of E020-1x60 occurrence and execute the full adjust of the auto gradation correction.