

TOSHIBA E-STUDIO 166: A MODERN OFFICE PRINTING MULTIFUNCTION TOOL. PART 3

By **VLADIMIR KAMENOV**

In this issue of RechargeEast Magazine we are finalizing the analysis of e-Studio 166 copier, its structure, disassembly and assembly issues. The first two parts were published in the October and November issues of our magazine.



Eng. Vladimir Kamenov, PhD

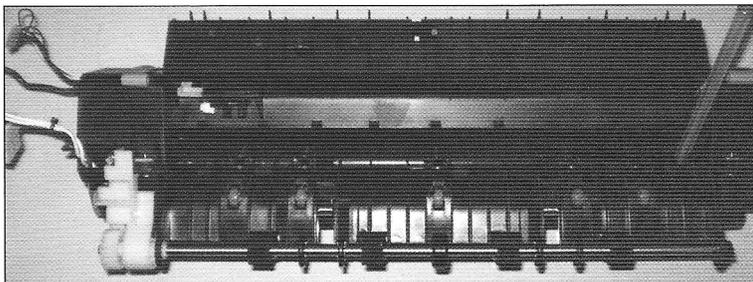
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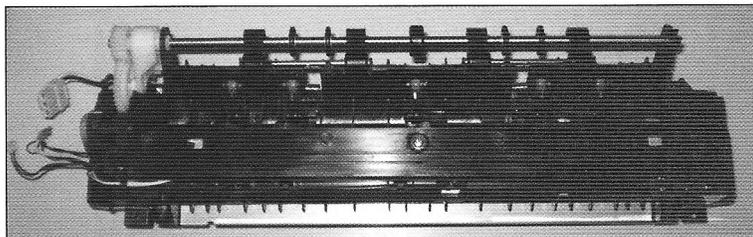
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DISASSEMBLY AND CLEANING OF THE MODULES

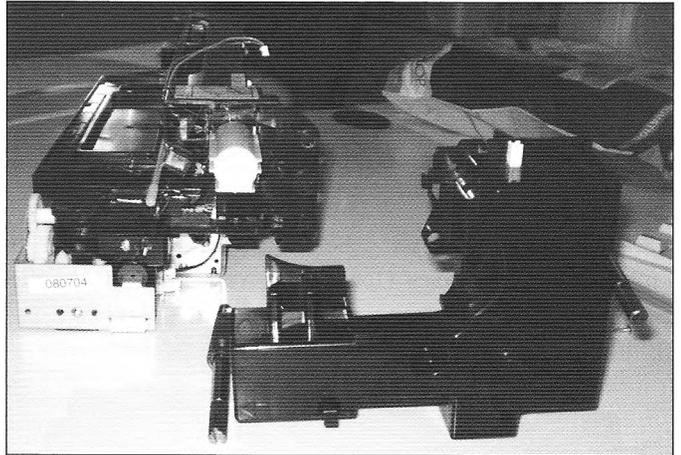
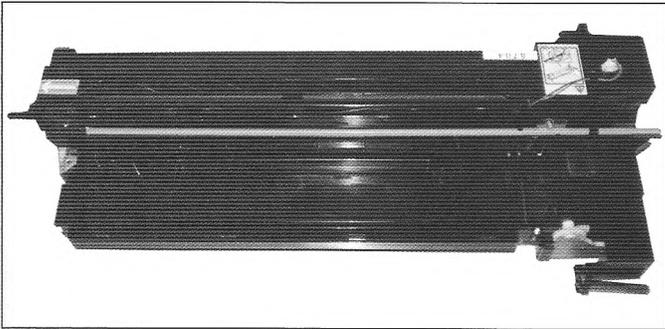
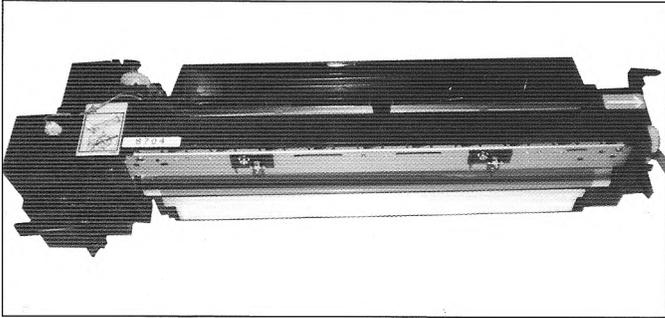
This is the infamous fuser module I mentioned earlier. You can see the separation fingers A. Examine them carefully, especially around the beds in the fuselage where they sit. Examine the fuser Teflon roller for damage. Incredibly however, there is nothing to clean in the module, although there is no silicone cleaning roller. The unit just stays clean even after enormous amounts of copies made.



Rear view of the module:

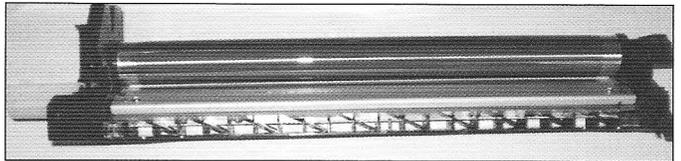


Drum module – the first thing you need to do is to separate the drum module from the developer module. However the only situation you will need to do this is when you replace the OPC drum, the cleaning blade and the developer material. The main charger doesn't require manual cleaning as the old corotron chargers. The only thing you have to do to clean the charger is to pull the green rod a couple of times.



Now you can easily remove the main charger assembly and the led eraser/discharge array. As I mentioned, there is no need to clean them because they stay clear no matter the number of copies made. At this stage, the removal of the OPC drum and the cleaning blade is very easy and straight forward.

To separate the drum module from the developer module, remove one screw, unplug two connectors and disengage one plastic clip. Then remove the plastic cover, joining the two units together. Gently separate the two halves. At this point clean the units with vacuum cleaner.



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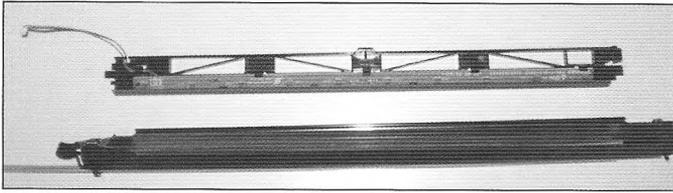


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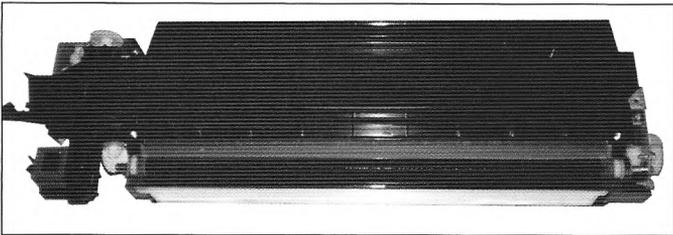
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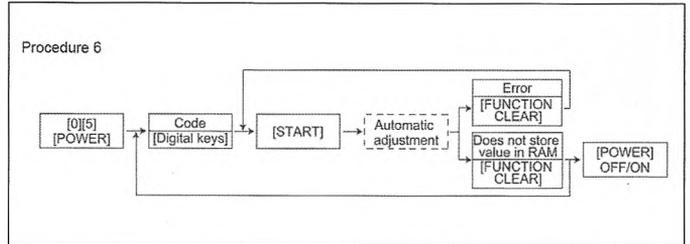


The developer unit – the developer material should be replaced at 72 000 copies. However even after 100 000 copies it is still ok. Of course when you can – replace it regularly.



The procedure is very easy with one special moment: there is a special code which executes a procedure for cleaning the recycled toner and mixing it with the old developer material. If you do not execute it prior to replacing the developer, at the stage of auto toner sensor adjustment this recycled toner will

mix with the new developer material and the value will not be memorized correctly, causing long term condition of dark copying. The procedure for this is the following:



The diagram means: holding digit buttons 5 and 0 turn the power on. Type in 280 and press the start button. Then turn the power off. The result is the recycled toner is cleaned of the cleaner unit.

280	Process	Forced performing of idling for toner recycle	ALL	-	M	Perform this adjustment before the replacement of the developer material.(The toner is forcibly removed from the cleaner.)	6
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Next follows the actual procedure for auto toner sensor adjustment:

When the developer material is replaced, adjust the auto-toner sensor in the following procedure.

<Procedure> (Adjustment Mode (05-200))

- (1) Install the process unit into the equipment.

Note:

Do not install the toner cartridge.

- (2) While pressing [0] and [5] simultaneously, turn the power ON. The following message is displayed on a 7-segment LED.

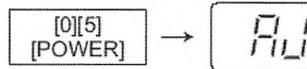
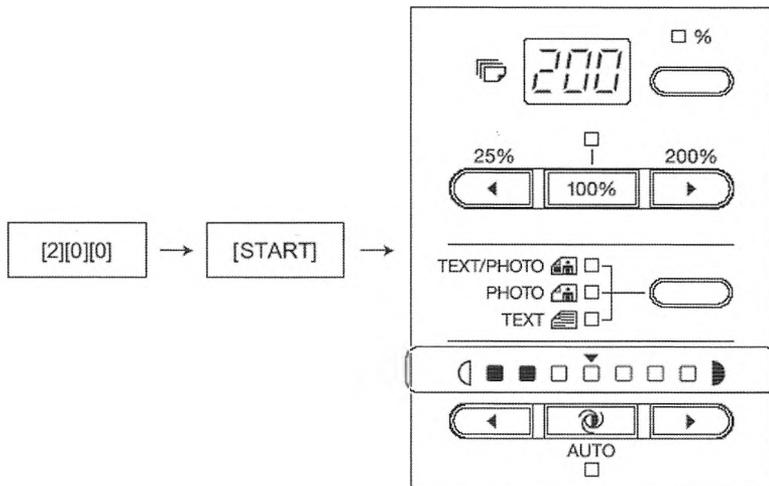


Fig. 3-1

- (3) Key in code [200] and press the [START] button. The display on the 7-segment LED changes as follows and the "density LEDs" lights from the left in order.



- (4) After about 2 minutes, all the “density LEDs” light and a value on the 7-segment LED automatically starts changing.

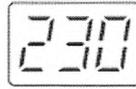


Fig. 3-3

Note:

The output voltage of the auto-toner sensor (2.30 V in the above case).
The drum, developer unit, etc. are in operation.

- (5) After a short time, the value on the 7-segment LED becomes stable and all the “density LEDs” are turned off.
- (6) Check if the value on the 7-segment LED is within the range of 232 to 248 (i.e. the output voltage range of the auto-toner sensor is 2.32 V to 2.48 V.).
- (7) If the value is not within the range of 232 to 248, press the reproduction ratio buttons ([25%] / [200%]) to adjust the value manually.
- (8) Press the [INTERRUPT] button.
The drum, developer unit, etc. are stopped and the following is displayed on the 7-segment LED.

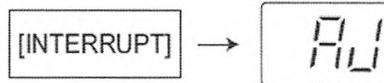
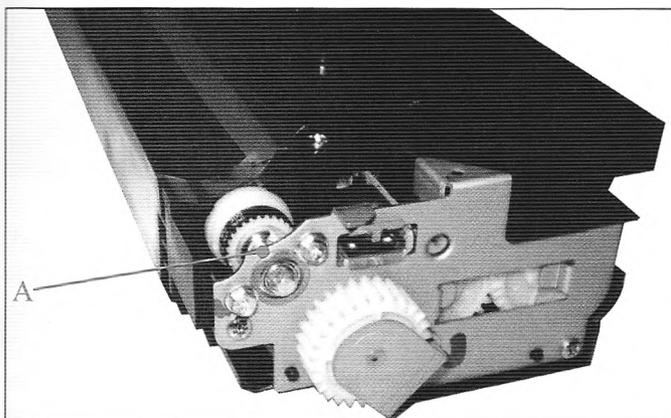


Fig. 3-4

- (9) Turn the power OFF.
- (10) Install the toner cartridge.

There is one known problem with the developer magnetic roller. Sometimes the ball bearing (position A) blocks and as a result there is a strange rattle coming from the module. This is caused by the hard rotation of the module parts. So always check for free rotation of the developer roller. If you do not replace the bearing on time it will dig deep into the developer roller's shaft and you will have to replace both.



Finally it is useful from time to time to disassemble and clean the recycled toner auger. It becomes clogged with human hairs and hardened toner.

