<Toner Replenishing Control by ATDC Sensor>

The ATDC Sensor samples T/C for each copy and the copier compares the reading with the reference T/C (which is normally 6% but may 7% depending on the image stabilization control provided), energizing Sub Hopper Toner Replenishing Motor M9 as may be necessary to replenish toner in either of the following four modes.

Toner Replenishing Mode	Conditions	Amount Replenished *
Large amount replenishing	The ATDC Sensor reading is lower than reference T/C by 0.5% or more.	Approx. 133 mg
Small amount replenishing	The ATDC Sensor reading is lower than reference T/C by less than 0.5%.	Approx. 66 mg
Fixed amount replenishing	The ATDC Sensor reading is higher than reference T/C by less than 1%.	Approx. 13mg
No toner replenishing	The ATDC Sensor reading is higher than reference T/C by 1% or more.	———

* The amount of toner replenished varies according to the paper size (given in the table are figures for A4). The copier is also provided with a function that, if T/C detected during a copy cycle is lower than the reference by 2% or more, interrupts the copy cycle and performs a toner replenishing sequence and, as soon as there is a gain of 1% against the T/C reading, resumes the copy cycle. This function is, however, disabled when a toner-empty condition is detected and the ATDC Sensor is found faulty.

<Toner Replenishing Control by AIDC Sensor>

This copier is equipped with a function that switches from the ATDC Sensor, if it becomes defective, to the AIDC Sensor to continue providing the toner replenishing control. A pattern is produced on the surface of the PC Drum for each copy between two successive copies or after it has been fed out. The AIDC Sensor reads that pattern to detect the amount of toner sticking to it and the copier performs either of the following toner replenishing sequences depending on the output voltage of the AIDC Sensor. (Controlled target T/C: 6%; AIDC Sensor output voltage: DC4.25V)

Toner Replenishing Mode	AIDC Sensor Output Voltage	Amount Replenished *
Large amount replenishing	Less than DC3.25V	Approx. 129 mg
Small amount replenishing	DC3.25V to less than 4.25V	Approx. 64 mg
Fixed amount replenishing	DC4.25V to less than 5.25V	Approx. 13 mg
No toner replenishing	DC5.25V or more	———

* The amount of toner replenished varies according to the paper size (given in the table are figures for A4).