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LaserWriter: Why There is No Full Bleed Printing (12/94)

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TOPIC -----

Why don't most laser printers support full bleed (edge-to-edge) printing?

DISCUSSION -----

Low-cost laser printers were made possible with the development of an imaging system that is safe, reliable, and allows user's to operate the printer without being exposed to hazardous chemicals and messy toner particles. Canon's all-in-one EP toner cartridge system was first introduced at Apple with the original LaserWriter. Since then, research has continued to focus on improving the image quality.

In order to control the imaging process and to insure optimal print quality Canon print engines have a predetermined 'safe area' for each supported paper size where printing cannot take place. The 'safe area' is hard coded into the print engine controller logic and is usually set by the cassette size sensors. This safe area is a little less than 1/4 inch and is designed to prevent toner from being placed on anything other than paper during the printing process, even if the paper skews or shifts slightly in the paper path. A small amount of toner that is transferred from the photosensitive drum to a roller or other component instead of the paper significantly affects print quality and increases maintenance costs. In order to eliminate the 'safe area' the paper registration characteristics of each print engine would have to be exact, thereby significantly raising the cost and complexity of the printer. The majority of customers do not require full bleed printing support and are unwilling to pay the extra costs required for it.

Full bleed printing requires that the printing device be capable of printing edge to edge on the printing material being used. Some printer vendors have created workarounds by using print engines that support oversize printing materials. The 'safe area' still exists, but it is located in an area which will be trimmed off when the printing material is trimmed to a standard size.

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