

What is a Laser Printer Drum?

Laser printers image plain paper by using a "drum." The technology is very similar to that used by photocopiers. Both laser printers and copiers use specially coated drums in order to create an image and transfer that image on to a sheet of paper.

Drum

1. The drum in a laser [printer](#) is the central component. It's the device that receives the image from the laser and transfers it to the paper to produce the final print. Photocopiers also contain drums that work in much the same way. The difference between laser printers and copiers is how the image is transcribed onto the drum.

Coating

2. The [print](#) image must be inscribed on the drum first in order to transfer it to paper, and the drum's coating makes it receptive to light. Most laser printer drums are coated with selenium. Selenium is a nonmetallic element with photovoltaic and photo-conductive properties that make it ideal for this use.

How It Works

3. The drum receives a high electrostatic charge first. When the light created by the laser touches it, the charge is removed. In this way, laser printer drums work on a negative principle: areas of the drum with no charge are the areas that will attract toner and provide the printed image. The toner adheres to the drum and is transferred to the paper when the paper passes very close by. The paper also receives an electrostatic charge, allowing the toner to be transferred in the exact position of the final printed image. Finally, a cleaning blade wipes any excess toner from the drum's surface preparing it to receive the next image.

Size

4. In newer and smaller printers, the circumference of the drum is less than the length of the paper. Because of that, the drum must make several rotations in order to image the entire page, so the imaging, transferring and cleaning happen simultaneously and continuously until the full page is printed. In larger and faster laser printers, the circumference of the drum may meet or exceed the length of the paper. These larger drums or belts can carry the full page image or even images of multiple pages with one rotation, which enhances their speed.

Replacing the Printer Drum

5. The laser printer drum is the major component dictating print quality. If the drum is scratched or dented, it affects the image. Damage to the drum may lead to unwanted markings on the printed page or deletions of the image. Additionally, laser printer drums have a certain life span, and are usually specified by the number of pages they can print before needing replacement.

Many small, inexpensive laser printers combine the drum and toner into a single unit, so both are replaced simultaneously. Larger units have separate drum and toner cartridge units.

What is a Laser Printer Drum?

Laser Drum:



Laser Toner:

