



Your No.1 Source For Laser Printer Parts

Just when you thought you mastered your printer, along comes a problem with the scanner. Unlike other errors, scanner errors always occur as the result of faulty communication. There will be no mysteries; you'll know immediately the source of the communication failure because the printer will display a signal.

Let's take a close look at the role of scanners, some typical error signals, and what you can do to correct them.

A scanner's job appears easy at first glance. It is responsible for writing on the photosensitive drum using a laser diode, and a motor. The light emitted from the laser diode is modulated and reflected off a rotating polygon mirror that is reflected through focusing lenses onto the drum. Finally, the image is spread out on the drum in a sweeping motion. Acting as a control tower, the controller board tells the scanner how often to modulate the light to enable printing. When either of these supporting mechanisms—the diode, drum, or controller board—shuts down or experiences problems, the scanner is unable to do its job and becomes a burden on the end user.

Although you can never predict what kind of error will occur, it's helpful to get acquainted with some of the most typical errors so you can avoid future hassles. 51, 51.1 51.2, and 52.2 are the most common types of errors, and comprise a good percentage of all scanner errors.

51 and 51.1: These errors signal loss of beam, resulting from a defective laser. First, check the cables that connect from the scanner to the controller board. These may need to be re-seated. Remember to check the fibre optic cable for kinks. If the lens and mirror are dirty, try cleaning them with a lens-free cloth. Years of grime and build-up may cause the laser beam to lose intensity. I would not suggest opening the scanner to clean the mirrors and lenses before the scanner actually has errors. You might cause more damage. In addition, not all scanners allow access to these parts so check the manual or call the manufacturer if you are not able to locate the information. If you've tried all these measures, it's likely the scanner contains a defective part that requires service by a qualified service technician.

52 and 52.1: These errors signify incorrect scanner speed or a start-up error. Replacing the scanner is usually the only corrective action that you can take if you encounter a 52.1 error. However, this can be costly. Make sure that you have covered all your bases before purchasing a new scanner.

52.2: This error represents scanner rotation failure. It is displayed when the scanner motor bearings wear out or the scanner mirror motor driver malfunctions. Sometimes,

the controller board causes the printer to display a 52 error. In this case, your best bet is still to replace the scanner.

If the printers sporadically display 51 or 52 type errors, it may be a good idea to replace the printer as soon as possible. Fast action on your part will save your customer downtime in the long run. If the scanner sounds louder than normal while printing, it's time to replace the scanner because it's only going to get worse.

With all these complications in mind, there is good news. In my experiences, scanners are generally easy to remove and in most printers typically take less than 30 minutes to replace. If you act quickly, your end user may not miss a beat, and you'll have another repeat customer.

1. Determine when the defect begins by performing a printer self-test.
2. Isolate each function. As the paper goes through the printer, stop the printer *before* the paper reaches the fuser. Now, check the image on the paper. Is the defect present? If so, then rule the fuser out as a possible cause.
3. Next, check the toner cartridge. Is the cartridge refurbished? Unfortunately, many refurbished toner cartridges don't always comply with manufacturer's specifications. The photosensitive drum may be of a lower grade, thus causing inferior quality printouts. The toner itself may be lower grade, or have a different consistency from the OEM toner, all which leads to clotting and premature wear of the fuser roller. For instance, if the toner is too fine, the wiper blade may not be able to clean the drum efficiently during each print cycle.
4. Is the defect on the photosensitive drum? If so, the defect may be caused by the scanner or the drum itself. You can conclude that if the photosensitive drum has a defect on it, then the imperfection will be visible if you rotate the drum manually. Remember: Touch the ends of the drum, not the photoconductive material. You don't want to create more defects!
5. Check the scanner for an error signal. A solid white line down the length of the printout usually comes from something blocking the scanner's beam.
6. One quick way to figure out if the roller is at fault when you have repetitive defects: Take the defective printout and roll it up in the shape of a cylinder so that the defects are aligned. This will show you the size of the roller that is causing the defect. Find that size roller in the machine and you have found your problem.

After following all of these steps, it's possible that the printer will continue experiencing defects. Too often we get so concerned with the "guts" of a machine that we forget to look more closely at the exterior. Now, check the printer for any damage, however slight, that may have occurred during handling. Replace every assembly in the printer that may cause the defect. Also, clean the reflective mirror and check all cables and connection devices.

From what we've seen in our shop, most defects prove relatively easy to isolate once you familiarize yourself with the components that cause them. Educating the end user

on preventative maintenance issues is always a good idea, and worth the extra few minutes it takes to show them how to clean toner spills and paper dust promptly and replace fuser cleaning wands. These are just some of the simple end user tasks that will prolong a printer's functionality.