

## THE PRINTER

### Installing and Configuring Printers in Windows Operating System

You can install printers in Windows using the Add a Printer option under “Device and Printer” of control panel. Windows provides the Add a Printer Wizard to simplify the process of printer installation.

To do this, you can open the Add a Printer Wizard in the following ways.

1. Click Start menu, then click Control Panel and choose “Device and Printer”. The “Device and Printer” Window appears.
2. Click Add a printer to open the Add Printer Wizard, and then click Next.
3. Select the option that describes the printer you want to use.
4. Click Local printer, automatically detect and install my plug and play printer check box. (Or ) A network printer, Select the port you want your printer to use. Create a new port or Click Local port and then click Next.
5. Follow the instructions on the screen to finish adding a printer with the Add Printer Wizard.

**Note:** The only difference between installing a network printer and a local printer is that you must specify the path to the network printer or browse to find its network location.

### Trouble-shooting of Inkjet Printers

There are many problems that can arise during the working of the printer. Inkjet printers are easy to maintain. The general problems that can occur with inkjet printers are blank print-outs, white streaks on a print-out and messy print-out.

#### 1. The Printout from the Printer are Blank

This type of problem may be due to faulty ink cartridge. Check if the plastic cover has been removed from the ink cartridge. There may be a possibility of air entrapment inside the cartridge. To undo any such fault, cover the cartridge in a tissue and shake it gently. Replace faulty cartridge with another ink cartridge. This helps to locate fault in the cartridge and also to find out if the cartridge is empty.

#### 2. The Colour Printout is Faulty

If an inkjet printer is not properly printing colour print-outs, it may be due to a faulty ink cartridge. Leaky cartridges can cause a great deal of problems in printing. It also leads to unnecessary wastage of ink. In this case, lay the ink cartridge on a wet tissue. The print head should touch the tissue so that the excess ink can be absorbed.

#### 3. Printer lights are flashing

Flashing lights can indicate one of many problems. The printer uses this signal to indicate some internal problem. It could be a paper jam or damaged system board. There are different patterns for flashing lights. Each indicates a different problem.

- If the prints cartridge status is flashing, check whether the top cover of printer is open. If yes, then close it. If everything is fine, go for cartridge inspection. It is possible that the cartridge is not installed properly. Or, one cartridge could be missing or running out of ink. Replace the faulty cartridge with a good cartridge.
- If resume light is flashing, then the printer may be out of paper. Put appropriate number of pages in the tray to complete the printing-task. If sheets of paper are there in the tray, then the printer may be printing the second side of a two-sided document

due to which the resume light is flashing. Wait for some time and let the printer complete the printing task. If none of the listed problems is present, there must be paper jam. Clear the paper jam and resume printing.

- If power light is flashing, then the printer is pre-paring to print the document. The light stops flashing when the printer receives all data.

#### 4. Horizontal White Lines in a Printout

If lines and dots are appearing in the printout, then the cartridge needs cleaning. Either cleans cartridges manually or automatically. To clean the printer:

- a) Turn off the printer.
- b) Check the manual for cleaning instructions. If instructions are provided, follow them.
- c) If the/manual does not have cleaning instructions, clean the printer contacts with a moist soft cloth.
- d) To clean the print head or cartridges, use the cleaning button on the printer.
- e) Print a test page.

#### 5. No Power to Printer

- **Fuse has Blown:** Check the fuse with a meter and replace it. Ensure correct voltage and amperage.
- **Internal Power Supply has Failed:** Repair it yourself only if you know what you are doing.
- **AC Power Supply has Failed:** Most AC adapters are sealed. Repair it only if you know what you are doing. Chances are there is multiple damage, replacing one- or two components will only allow power to circulate temporarily, causing greater damage.
- **Main Logic Board is Shutting Down the Power:** Repair the logic on the main logic board and in some cases, when damage is too extensive or parts are unavailable (custom chipsets), the main logic board will require replacement.

#### 6. Power Available but Not Printing

- **Printer Cable not installed properly:** Ensure both ends of the cable are correctly installed.
- **Printer Cable is Faulty:** Check for possible pin damage and replace, if necessary.
- **No Paper or Paper Not Installed Properly:** No paper will result with the printer going into alarm, not coming "on-line" or "ready" for print. Insert paper. If there is paper, ensure it is correctly installed. Ensure the "on-line" button has been selected. There are sensors along the paper path; if these are defective, they will cause the printer not to print. Check the sensors along the paper path and replace if necessary.
- **Printer Port Connection at PC Is Faulty:** Try printing plain text via DOS (you can even use the "print screen" command on your keyboard while you are in the DOS). If the printer still doesn't print, refer to your printer's owner manual and perform a "self-test" of your printer. If the printer prints Ok, the fault is likely to be with the printer cable or computer.

## Trouble-shooting of Laser Printers

There are many problems that can arise during the working of the Laser printer.

1. **Error Message:** printer suggests printer status by message. They are following:
  - a) **“Warming-up” message shows continuously**
    - Faulty data cable
    - Faulty interface circuit
  - b) **“Paper Out” message**
    - If paper is actually present, improperly positioned paper tray
    - Non-working tray sensors
  - c) **“Toner Low” message always appears or never appears**
    - Suspect EP cartridge
    - Faulty high voltage power supply
  - d) **“Paper Jam” message**
    - Poor quality paper
    - Worn pickup assembly
    - Fuser unit problem
  - e) **“Error” message**
    - Suspect scanner unit
    - A bad connection between scanner and hardware driver
  - f) **“Service” message**
    - Generally concerned with fuser problems
2. **Blacked-out paper**
  - Primary corona in EP cartridge
  - Electronic logic fault
3. **Faint print**
  - Low toner level in EP cartridge
  - Unsuitable paper quality
  - Transfer corona assembly
  - Fault in high voltage power supply
4. **Speckled print**
  - Primary corona control grid
  - High voltage power supply
5. **Vertical white lines**
  - EP cartridge
  - Transfer corona assembly
  - Scanning and laser assembly
6. **Missing right hand or distorted text**
  - Check toner level or replace EP cartridge
  - Check scanner and optical alignment
7. **Incorrect Image registration**
  - Check or replace pickup rollers
  - Check or replace drive train
8. **Horizontal black lines**
  - Check connectors from sensor
  - Check or replace beam detect sensor

## 9. Rough print appearance

- Troubleshoot the electronic logic circuit Smear print
- Check fusing roller and cleaning pads
- Check or replace static discharge comb
- Check the drive train and paper path

## 10. Distorted images

- Check paper path
- Check or replace the scanner unit

## 11. Vertically repetitive effects

- Check and clean all rollers and belts
- Check or replace EP cartridge

## 12. Poor Print Quality

- **Faulty Toner Cartridge:** Remove the toner cartridge and check if it appears to be leaking, damaged or rotation has seized- Replace the toner cartridge.
- **Faulty Drum Unit:** Some laser printers have a separate drum unit. Remove the drum unit but be careful not to allow direct sunlight or continuous exposure to daylight and do not touch it even if it appears to have residue of toner on it. It is probably faulty anyway but if it is not, then touching will damage it more.
- **Faulty Transfer Corona Assembly:** Depending on the brand of your laserjet, this item will be either a roller assembly or a wire assembly. Remove, clean thoroughly, replace and test. If yours is the roller assembly type, make sure you do not touch the roller, as the oil on your hand can damage it.
- **Faulty Fuser Unit Assembly:** It is probably the most common place to cause poor print quality and paper jamming. Inspect the fuser unit assembly for scratches on the fuser roller. Ensure that the printer has been turned off for at least one hour as extreme temperatures exist within this item. If scratches are seen, replace the entire assembly.
- **Faulty High Voltage Power Supply:** Classic signs are blank pages, black pages or faint print. Replace the high voltage power supply. Laser Scanner Unit Assembly & Optical Fiber Cable Signs are missing print and faint print. Try cleaning the mirror, the front of the scanner unit assembly and then test it. Most of the time this procedure should work. If this procedure fails to rectify the fault, replace the scanner unit assembly. It is also good practice to replace the optical fiber cable as well.

## 13. No Power to Printer

- **Fuse has Blown:** Check the fuse with a meter and replace it. Ensure correct voltage and amperage.
- **Faulty Power On-Off Switch:** Check the switch with a meter and replace it. Ensure correct voltage and amperage.
- **AC Power Supply has Failed:** Replace the AC power supply. Try to repair only if you know the process. Chances are, there is multiple damage; replacing one or two components will only allow power to circulate temporarily causing greater damage.
- **PC Interface/Main Logic Board Is Shutting Down Power Supply:** Repair the logic on the PCA interface/main logic board and in some cases, when damage is too extensive or parts are unavailable (custom chipsets), repair the PCA interface/main logic board.
- **DC Controller Is Shutting Down Power Supply:** Repair the logic on the DC controller and in some cases, when damage is too extensive or parts are unavailable (custom chipsets), repair the DC controller.

- **DC Power Supply is Faulty:** Repair or replace the DC power supply. DC power supply feeds the DC controller. Quite often, if this is the culprit, then damage to the DC controller could have occurred.

## 14. Power Is On but Not Printing

- **Printer Cable not Installed Properly:** Ensure that both ends of the cable are correctly installed.
- **Printer Cable is Faulty:** Check for possible pin damage and replace if necessary.
- **No Paper or Paper Not Inserted Properly:** No paper will result in the printer going into alarm, not coming, "on-line" or "ready". If there is paper, ensure it is correctly installed. Ensure that the "on-line" button has been selected. There are sensors along the paper path and if these are defective, they will cause the printer not to print. Check the sensors along the paper path and replace if necessary.
- **Printer Port Connection at PC Is Faulty:** Try printing plain text via DOS (you can even use the "print screen" command on your keyboard while you are in the DOS environment). If the printer is OK, the fault is more likely with the printer cable or computer, not with the printer.

## 15. Grinding Noises

- **Obstruction Along the Paper Path:** There might be something caught along the paper path.
- **Gear Train Assembly worn out or Damaged:** Inspect the gear train assembly. If worn out or damaged, replace it.
- **Toner Cartridge Is Faulty:** Remove the toner cartridge and inspect its gearing and rotation.
- **Main Motor Faulty:** Inspect the main motor's gearing and rotation, and replace if they are faulty. Often, damaged gearing attached to the main motor will not be available as a separate entity, meaning that the entire main motor assembly will require replacement.
- **Fuser Unit Assembly Faulty:** As with faults with poor print quality and paper jamming, the fuser unit assembly will also cause grinding noises, which is cause of concern. Replace the fuser unit assembly. It is always better to replace the entire assembly as well as the meshing gears that it links up with.
- **Cooling Fans:** Grinding noises coming from the cooling fans can stop the printer anytime. Seized fans overheat the printer and cause possible extensive damage. Replace the faulty fan immediately when this occurs.

## 16. Paper Jamming/ wrong-feeding

- **Poor Paper Quality:** Ensure that the paper you use meets the standards of the printer manufacturer and replace if necessary. This is especially important when dealing with transparencies and labels.
- **Obstruction along the Paper Path:** There might be something caught along the paper path.
- **Faulty Toner Cartridge:** Remove the toner cartridge and inspect its gearing and rotation; replace if necessary.
- **Faulty Fuser Unit Assembly:** The fuser unit assembly is one of the most common faults regarding paper jam. It is always better to replace the entire assembly as well as the meshing gears that it links up with.
- **Faulty Sensors:** Faulty sensors along the paper path will not provide the printer with the correct information about the paper's position. Hence, the printer will fall into a false paper jam mode. Inspect and test the sensors and replace if necessary.

# NIELIT GORAKHPUR

---

- **Faulty Paper Registration Assembly:** This fault prevents pick up of paper. Replace the paper registration assembly and the paper path sensors as well.
- **Faulty Clutch Drive Assembly:** This causes internal paper jamming. Replace both the clutch drive assembly and the gear train assembly.
- **Faulty Paper Delivery Assembly:** This causes internal paper jamming. Replace both the paper delivery assembly and the gear train assembly.

## **Exercise:**

- 1: How to install Printer Driver on Windows.**
- 2: List the troubles in Laser Printer.**
- 3: how to solve “Horizontal White Lines in a Printout” problem in inkjet printer.**