

TECH

Weird Things We Have Seen

Once you've gained some experience working on printers, most problems can be solved by common sense and basic troubleshooting. But every now and then, something comes up that doesn't fit into the normal troubleshooting patterns. Here are some examples that we have seen recently:

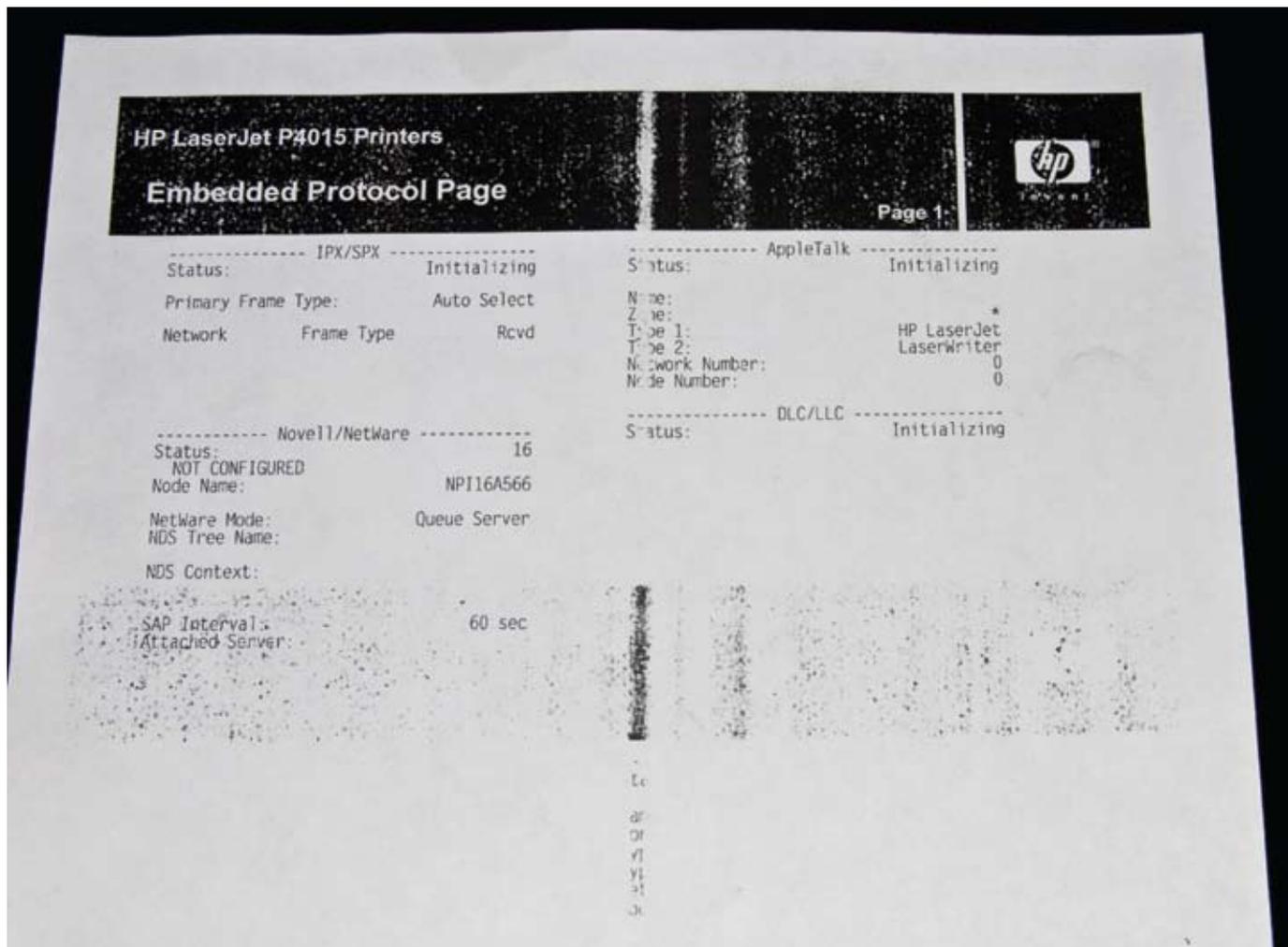
1. You try to print something on an HP LaserJet P4015 (or P4014 or P4515) printer, and the motor runs for a while, then stops briefly (for a second or less), then runs for a while, then stops briefly, etc. This can go on for an indefinite period of time. Eventually, the job may print, but possibly with poor print quality, as in the example below. You may get unfused toner and/or "ghosting" (images repeating down the page). This may get worse after print-



ing a few pages. In most cases, there will be no error code – you will just see "Processing job" on the display while the motor is running.

Normally, this sort of behavior would make you suspect one of the boards

– formatter or DC controller. In this case, however, the poor print quality is a valuable clue. The problem is actually a weak or defective heating element in the fuser. In most machines, this would cause a 50 error, but this printer is either less sensitive to fuser heating, or the fuser is getting close enough





that the DC controller continues trying to heat it instead of flagging an error. In any event, the solution is to replace the fuser.

2. The same sort of problem in the 4200/4300 family of printers has slightly different symptoms: the normal motor turnover on power-up will be delayed by a few seconds, and when printing, the motor will run for a few seconds longer than normal before feeding paper. It's really the same thing as described above (and again, no error is displayed), but on a smaller scale.



3. A related problem occurs in the 9000 and similar models (9040, 9050), but since these fusers have solid rollers and heat lamps rather than "instant on" ceramic heating elements, you will see the problem on power-up. In most printers, if the fuser does not reach its operating temperature within a short time, the result will be a 50 error. But we have seen 9000 printers that will hang in the "warming up" state for as long as a half an hour before either displaying the 50 error or going to "Ready." On older models, I wouldn't hesitate to blame the formatter board for such behavior, but on the 9000, it is usually a defective fuser or low voltage power supply.

4. On the LaserJet P3005, paper will stop just as it starts to come out of the fuser, and the printer will display a paper jam error. Normally this would indicate that the exit sensor (in the fuser) is not



functioning properly, and the solution would be to replace the fuser. In the rare cases where this didn't fix it, the next suspect would be the ECU board (which reads the sensor) or the cables that connect the fuser to the board. But we have seen cases where none of these things fixed this problem. Strangely enough, you can often fix it by simply removing the formatter board, powering up without it, running an engine test, and then powering down and re-installing the formatter. We're not sure what's going on here – maybe a defective formatter, or maybe something just needed to be reset – but the significant thing is that it's not any of the usual suspects. Note that in a normally functioning P3005, you will hear the printer speed up shortly after it starts to feed paper, as the fuser drive switches from the main motor to the fuser motor. We have noticed that the type of jam described above is often accompanied by a failure to go to the higher speed.

5. In the 3050 series of all-in-one printers, you may see "no paper pickup – check printer" on power-up. This would normally lead me to believe that there was a job in the queue, and the printer had tried and failed to pick up paper. So I would troubleshoot the pickup mechanism. Strangely enough, this message has nothing to do with paper pick-up! It is caused by paper (or other foreign material) jammed in the fuser (on any other printer, this would cause a simple paper jam error).



We will continue to inform our readers whenever we find these sorts of non-standard error conditions. Normal troubleshooting works well most of the time, but in odd cases like these, you can save a lot of time by benefiting from someone else's trial-and-error.