

Reliability Performance Test

AUGUST 2015

HP OfficeJet Pro X551dw Printer



Test Objective

Buyers Laboratory LLC (BLI), Fairfield, NJ (USA), was commissioned by Hewlett-Packard to conduct an extended reliability test on four HP OfficeJet Pro X551dw printers. The objective of the test was to evaluate the reliability performance of the HP inkjet models when each was subjected to a 500,000-impression reliability test over a six-and-a-half-month period, with monthly volumes of 75,000 impressions, which is the maximum monthly duty cycle.

Test Overview

Buyers Lab's reliability performance test was conducted using the ISO 24712 five-page color test suite. Four models (designated as Test Units E, F, G and H) were purchased on the open market by BLI and tested over 135 business days, with varying per-diem print volumes designed to replicate real-world usage. Each machine was operated in default (normal) mode, with any misfeeds, multi-sheet feeding, misalignment/skewing, machine malfunctions, printer errors and print head or cartridge failures recorded.

Executive Summary

Each of four HP OfficeJet Pro X551dw printers successfully completed an astounding 500,000-impression test, demonstrating outstanding reliability. To put this in perspective, although not many manufacturers provide this information, the volume produced by the HP models in this test exceeds the rated engine life of the comparable laser models in our database for which this info is available. Based on HP's recommended monthly volume of up to 6,000 impressions, the test subjected the devices to the equivalent of almost seven years of usage. Other than scheduled maintenance required at three intervals during the test to replace components that had reached the end of their rated lives, no service was required. The four models experienced an average of only six misfeeds throughout testing, for an average misfeed rate of 1 per 83,333 impressions. With real-world usage at HP's recommended monthly volume, this would equate to one misfeed every 13.89 months. And notably, for three of the four test units, the misfeed rate was even lower, with Device E, for example, experiencing only two misfeeds, for a misfeed rate of just one per 250,000 impressions.

Three of the test units each experienced a few error messages requiring rebooting of the device. In addition, as would be expected of inkjet units, cleaning cycles were required to resolve minor streaking usually only after excessive volume was put on the devices. Again, these intervals were not excessive and would cause very little downtime. As such, BLI certifies the OfficeJet Pro X551dw as highly reliable. Further, BLI feels the OfficeJet Pro X551dw's reliability is on par with or better than the laser models with which it competes.

Key Specifications

HP OfficeJet Pro X551dw	
Street Price	\$599.99
Technology	PageWide Array (Ink)
Max Monthly Duty Cycle	75,000 impressions
System Memory (Std/Max)	512 MB/512 MB
Print speed (Color/Black)	42 ppm/42 ppm
Standard Paper Capacity	550 sheets
Maximum Paper Capacity	1,050 sheets
Black Ink/Toner Yield	9,200 pages
Color Ink/Toner Yield	6,600 pages

Reliability Performance: Excellent

During BLI's 500,000-impression test, three of the four models tested (Units E, F and H) experienced five or fewer misfeeds, while Test Unit G experienced 13 misfeeds. Three of the four devices experienced error messages (between two and six times) that instructed the user to power off and back on; Unit H experienced no errors.

Reliability Test Totals				
Unit	Model	Total Misfeeds	Misfeed Rate	Printer Errors (Cleared by powering off and back on)
E	HP OfficeJet Pro X551dw	2	1 per 250,000 impressions (1 jam every 41.67 months)	2
F	HP OfficeJet Pro X551dw	5	1 per 100,000 impressions (1 jam every 16.67 months)	6
G	HP OfficeJet Pro X551dw	13	1 per 38,462 impressions (1 jam every 6.41 months)	2
H	HP OfficeJet Pro X551dw	4	1 per 125,000 impressions (1 jam every 20.83 months)	0
AVERAGES		6	1 per 83,333 impressions (1 jam every 13.89 months)	2.5

Error Message Details

Additional Observations

Early in testing, a message indicating that the user should remove or replace the duplexer to maintain print quality occurred at random intervals, but a firmware upgrade fixed the issue to provide the message every 10,000 pages and only at the conclusion of a print job, after which the message would clear. Streaking, which is also common of inkjet devices, was observed although usually only after heavy volume was run on the devices; BLI technicians performed cleaning cycles on each of the four machines between two and five times throughout the test (in most cases a level one cleaning was sufficient to resolve the quality issues, though near the 350,000-page interval, use of an HP Advanced Cleaning Kit, which includes special paper, was required). The procedure was simple and resulted in minimal interruption.

Supporting Test Data

Test Environment

Testing was conducted in BLI's test facility located at 80 Little Falls Road, Fairfield, NJ, and under ambient conditions of 68°F to 78°F and 45% RH (+/-10%), with daily conditions monitored by an Extech RH520 Temperature/Humidity Digital Recorder and a Honeywell Model 61 Seven-Day Temperature/Humidity Chart Recorder.

Test Equipment

BLI's dedicated test network, consisting of Windows 2008R2 and Microsoft Exchange 2010 servers, Windows 7 Professional workstations, 100/1000BaseTX network switches and CAT5 cabling.

Test Duration

Products were tested for 500,000 impressions over 135 working days with letter-size paper. BLI's daily test usage is designed to replicate real-world use over an eight-hour workday, and as such includes a mix of simplex and duplex modes and a mix of short, moderate and long run lengths, and on/off cycles, throughout the day.

About Buyers Laboratory LLC

Buyers Laboratory LLC (BLI) is the world's leading independent provider of analytical information and services for the digital imaging and document management industry. For over 50 years, buyers have relied on BLI to help them differentiate products' strengths and weaknesses and make the best purchasing decisions, while industry sales, marketing and product professionals have turned to BLI for insightful competitive intelligence and valued guidance on product development, competitive positioning and sales channel and marketing support. Using BLI's web-based bliQ and Solutions Center services, over 40,000 professionals worldwide create extensive side-by-side comparisons of hardware and software solutions for over 15,000 products globally, including comprehensive specifications and the performance results and ratings from BLI's unparalleled Lab, Solutions and Environmental Test Reports, the result of months of hands-on evaluation in its US and UK labs. The services, also available via mobile devices, include a comprehensive library of BLI's test reports, an image gallery, hard to find manufacturers' literature and valuable tools for configuring products, calculating total cost of ownership (TCO) and annual power usage. BLI also offers consulting and private, for-hire testing services that help manufacturers develop and market better products and consumables.

For more information on Buyers Laboratory LLC, please call 973-797-2100, visit www.buyerslab.com, or email info@buyerslab.com.

CERTIFICATE OF RELIABILITY

Awarded to

HEWLETT-PACKARD COMPANY

for the performance of the
HP OfficeJet Pro X551dw
in BLI's in-house durability test.



GERRY STOIA
CEO



AUGUST 2015

DATE

This is to certify that when subjected to a 500,000-impression Buyers Lab durability test,
the HP OfficeJet Pro 551dw proved to be a highly reliable product.

BUYERS LABORATORY LLC

THE LEADING INDEPENDENT OFFICE PRODUCTS TEST LAB AND BUSINESS CONSUMER ADVOCATE

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