

Reverse Engineering Challenge

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We chose the HP Officejet Pro 8715 printer. The main reason why we chose to work with this device is because it was donated to us, therefore we took that opportunity to disassemble it for this project.



Service and Maintenance Parts:

Absorber - Ink service station (ISS) bottom absorber foam: Absorbs ink during the cleaning process.

Service station absorber (sponge): Soaks up used ink during cartridge cleaning. Works as sled filters.

AC Adapter: Power supply module or adapter for connecting to the printer and power cord.

Input Tray Assembly: A component related to the input tray of the printer.

Cleanout Service Assembly: Component related to the cleaning out service.

Mechanical Components:

Actuator: A part that usually causes the carriage assembly to stall on the left side of the printer.

ADF Arm: Senses paper in the automatic document feeder (ADF) area tray/feeder tray.

ADF Feed Assembly: Includes the complete ADF assembly (motor, gears, rollers, sensor), does not include the ADF pad or plastic flatbed cover.



ADF Input Tray: Tray for automatic document feeder, where papers are placed for feeding into the unit.

ADF Motor: The main motor on the ADF unit.

ADF Output Tray: Where paper comes out of the automatic document feeder.



ADF Pad: Prevents multiple feeding or paper jams while faxing, scanning, or copying.

ADF PC Board: Control Board on the ADF unit.

ADF Roller Kit: Upper pick roller replacement kit for feeding paper into the feeder for scanning, copying, or faxing.

ADF Scanner: Lower assembly that scans and copies documents.



ADF Sensor Board: Narrow strip PC board with document skew sensors, registration sensor, and timing.

Based on the categorization, it seems like the parts are related to various aspects of the printer, including ink management, paper handling, and mechanical functions. These components are essential for the proper functioning and maintenance of the HP Officejet Pro 8715 printer.

We learned many lessons and interesting things through the disassembly of this printer, amongst them we could mention many simple mechanisms that carry out essential tasks, like the gears that allow the sensor light to scroll through the sensor part of the printer. Furthermore, we believed the motherboard of the printer would be bigger and more complex than it really is. Then, there are the more complex systems than expected, for example the disassembly of the scanner window, being composed of more parts than previously anticipated. The way that the ink cartridge was composed was quite odd because we didn't expect it to have a container holding the ink. Additionally, we didn't expect the printer would be so complicated to disassemble, however, we were proven wrong due to the amount of screws it has.