HP EliteBook x360 830 G7 Repairability Assessment

A iFixit repairability assessment teardown of the HP EliteBook x360 830 G7 laptop.

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TOOLS:

- Battery (1)
- Spudger (1)
- Opening Pick (1)
- Suction Handle (1)
- T5 Torx Screwdriver (1)
Step 1 — HP EliteBook x360 830 G7 Repairability Assessment

- Exploratory disassembly of the HP EliteBook x360 830 G7 business-class notebook for the purpose of assessing repairability. Performed 5/21/2020.

- The laptop feels sturdy. External case parts are metal, with generous use of rubber for points of contact (feet, display, etc.).

- The laptop isn't ingress-proofed, so gaps in the keyboard and lower case—including ports, vents, speaker grilles, etc.—may allow water damage or particle buildup.
Step 2

- The lower case is held in place with five Torx screws and some plastic clips.
- The screws are all captive, eliminating the chance of losing them.
- The clips are sturdy and require a little force to disengage. They don't seem likely to break over the lifetime of the device.
- Nothing is left in the lower case, making for an easy and inexpensive replacement if it breaks.
- Many components in computer itself are immediately accessible. Flat design makes for easy, independent replacement of interior components.
Step 3

- Several important components are available for removal as soon as the lower cover is removed.

- Pictured here: RAM, battery, SSD, fan, heat sink, and wireless card.

- The RAM, SSD, and wireless card are all industry-standard parts, allowing for easy consumer replacement or upgrading.

- RAM and SSD are covered by metal shields, held in place with metal clips. Both shields have a pull tab, which is conveniently labeled.

- All the above components including the battery are held in place with Phillips screws and / or clips. The fan and heat sink use captive screws.

- These components (battery, storage, and RAM in particular) are some of the most likely to need replacing during the lifespan of a laptop. Their ease of access and replacement contribute heavily to the repairability of any device.
Once the battery is out of the way, the trackpad and CMOS battery are available for removal.

The ports on either end of the board are under brackets—one plastic, one metal. All ports except the DC power port are soldered in place, meaning users will likely not be able to replace them on their own.

Putting commonly-used ports on their own circuit board(s) makes for easy replacement if they ever wear out.

Almost every connection port, screw hole, and cable on the main board is conveniently labeled.

Labels like these inspire confidence during any repair, reduce reassembly errors, and are a reassuring message from the manufacturer that this product was meant to be handled and repaired by humans.
Step 5

- The two speakers are connected with a wire that runs underneath the motherboard, so they are not accessible until the motherboard is removed.

  Speaker failure is fairly common in laptops. The more components that need to be removed to access them, the more likely that some users will inadvertently damage something along the way.

- The EliteBook 840 G7 has a similar speaker design, but instead of routing the cable underneath the motherboard, the cable clips to the bottom of the battery, making them accessible as soon as the lower case is removed.

- That said, truly critical components like the battery and SSD take priority over speakers. So if something must be buried under the board, a speaker cable isn’t the worst choice.

- The WWAN antennas are also available for removal at this point.
Step 6

- Underneath the motherboard, some large stickers cover the keyboard which is riveted to the top cover, bundled as one assembly.

Keyboard are often the most-used component of any laptop, and are commonly the first victim of a liquid spill. While it's unfortunate that this one cannot be replaced independently, at least the other parts in the top case can be easily removed.
Step 7

- The display is accessible as soon as the lower case is open.

- The display must be opened from the top so that the bottom end can slide out. Starting from the base will likely break clips and maybe a board.
  - The webcam slider provides a fairly safe access point for a tool. The thin adhesive is fairly easy to slice through.

- The plastic bezel did separate from the display in a few places during removal.
Step 8

- The display is quite easy to disconnect, and no cables or components are in danger during the prying procedure.

- The display houses no additional components, allowing for quick and easy replacement.

- Once the display panel is removed, the microphone, ambient light sensor, and camera assembly are accessible. Though some are secured with copper tape, which may be a challenge to remove and replace intact.
Step 9

- The labeled hinges with labeled plastic cable securers are accessible after the display is removed.

Since the display, antenna, and camera cables route through this cover where the hinge moves, they may experience stress from repeated flexing, eventually needing replacement.
Step 10

The HP EliteBook x360 830 G7 earns a 9 out of 10 on our repairability scale (10 is the easiest to repair):

- The battery, SSD, RAM, and display are easily accessible and removable.
- Almost all moving parts, including the speakers, trackpad, and fan are modular and can be independently replaced.
- All screws are standard Phillips and Torx, and many are identical, preventing damage from accidental misplacement.
- Many parts and cables are labeled.
- Manufacturer provides free user-accessible repair documentation.
- The keyboard, a common point of failure, is not independently replaceable.
- Most ports are soldered to the main board.