HP EliteBook 840 G3 Repairability Assessment

Repairability assessment of the HP EliteBook 840 G3 performed on January 16, 2017.

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INTRODUCTION

The HP EliteBook 840 G3 received a 10 out of 10 on our repairability scale, for all of its components are modular and accessible. Big positives include that its battery, RAM, and SSD are all accessible and removable, and the display is very easy to replace if broken.
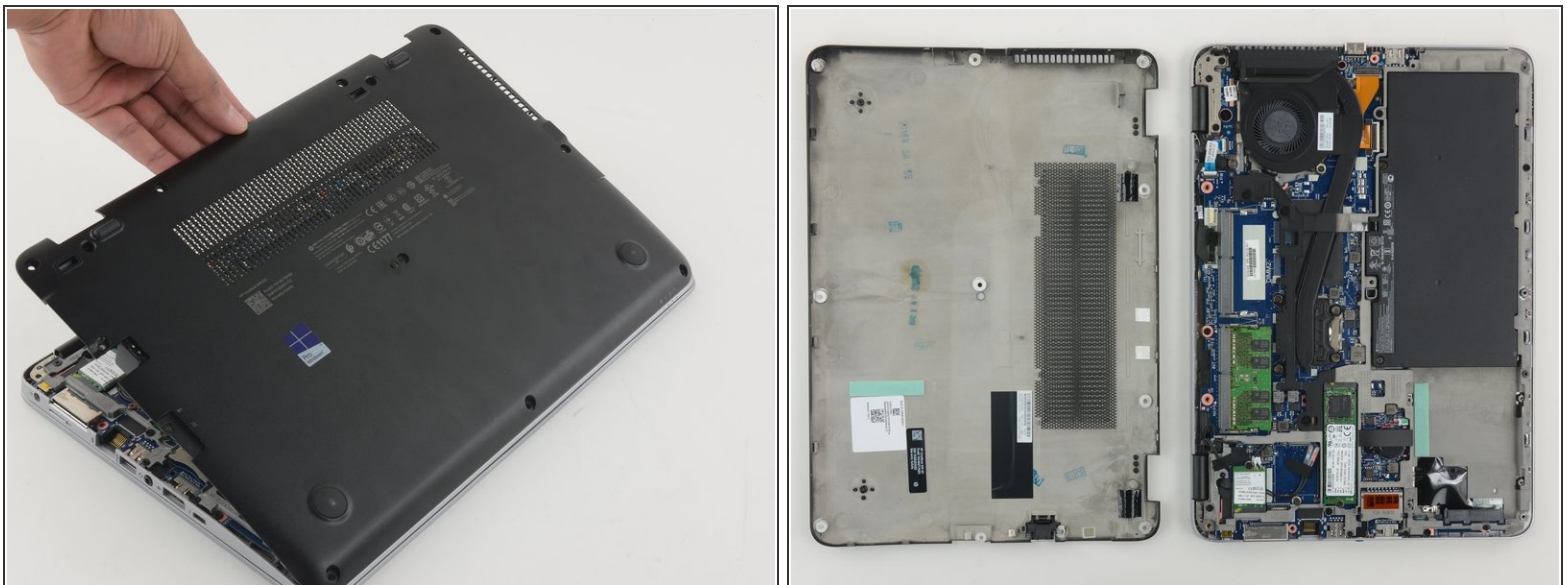
TOOLS:

- Phillips #0 Screwdriver (1)
- Spudger (1)
- Tweezers (1)
- iFixit Opening Picks set of 6 (1)

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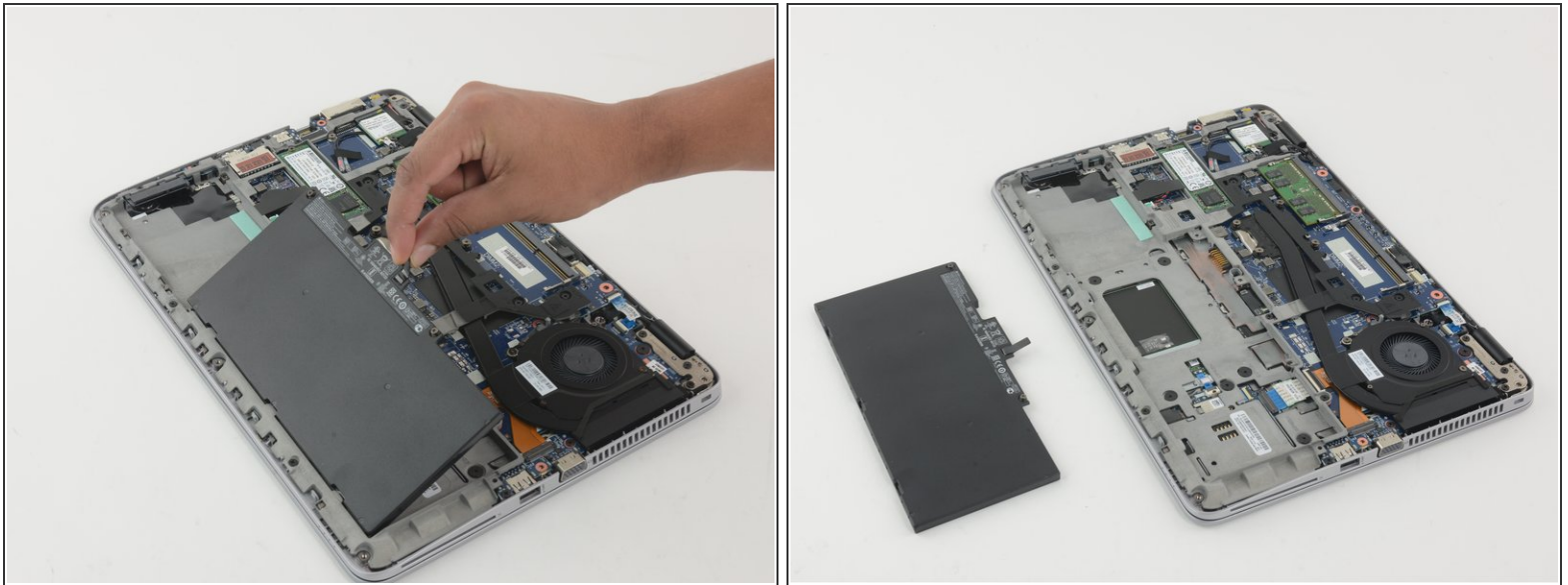## Step 1 — HP EliteBook 840 G3 Repairability Assessment

- Reference shots: packaging US4, rear and open.

Step 2

- Standard, simple lower case removal. Remove 10 standard Phillips screws and 1 additional screw in the SD card slot, and pull up against clips starting near the hinges.

- Internal view.

Step 3

- The battery is immediately accessible under the lower case.

- Removal is quick. The battery is held by two captive Phillips screws (no adhesive) and can be lifted out with a handy pull tab.

- Easy battery removal is a high mark for repairability, as all batteries will eventually wear out and need replacement.

Step 4
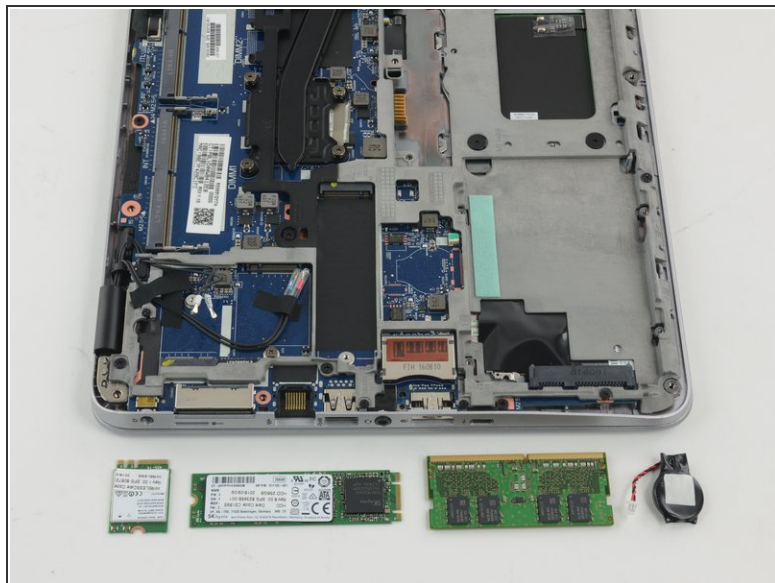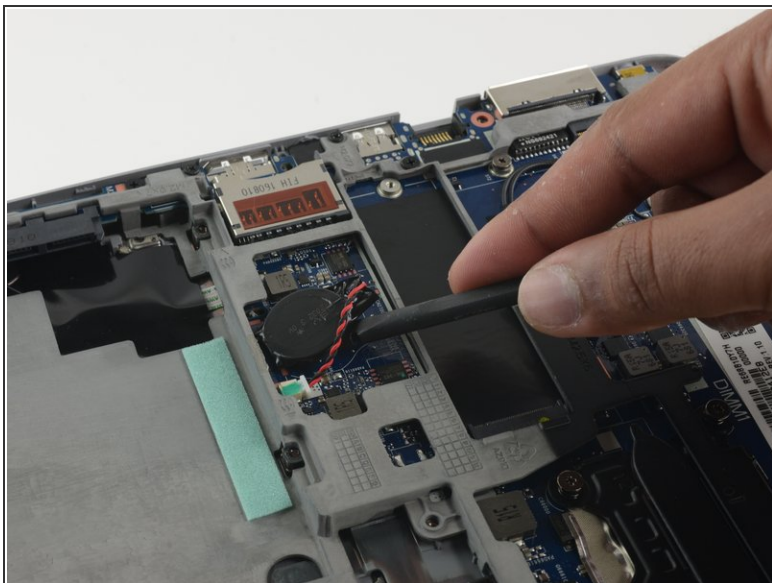
- The CMOS battery is tightly glued down but can be freed with a spudger. The remaining adhesive is enough to hold the battery during replacement.

- We can remove the wireless card, SSD, RAM and CMOS battery with little to no effort.

Step 5
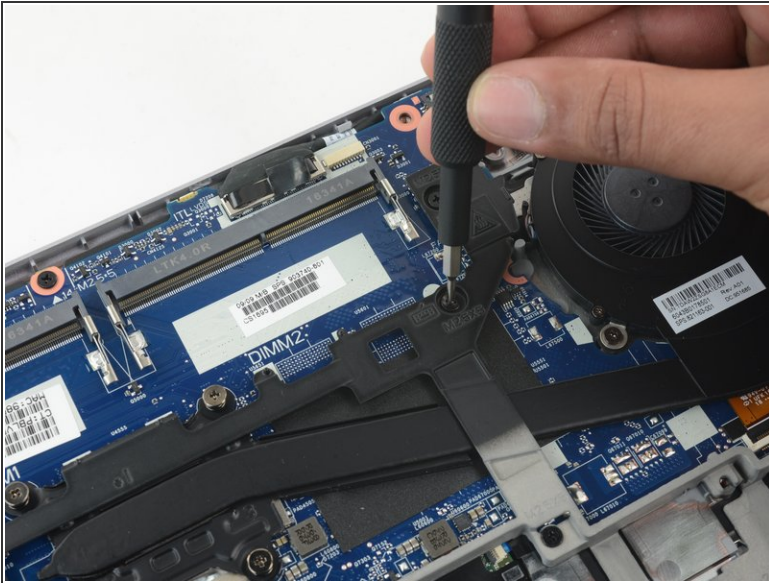
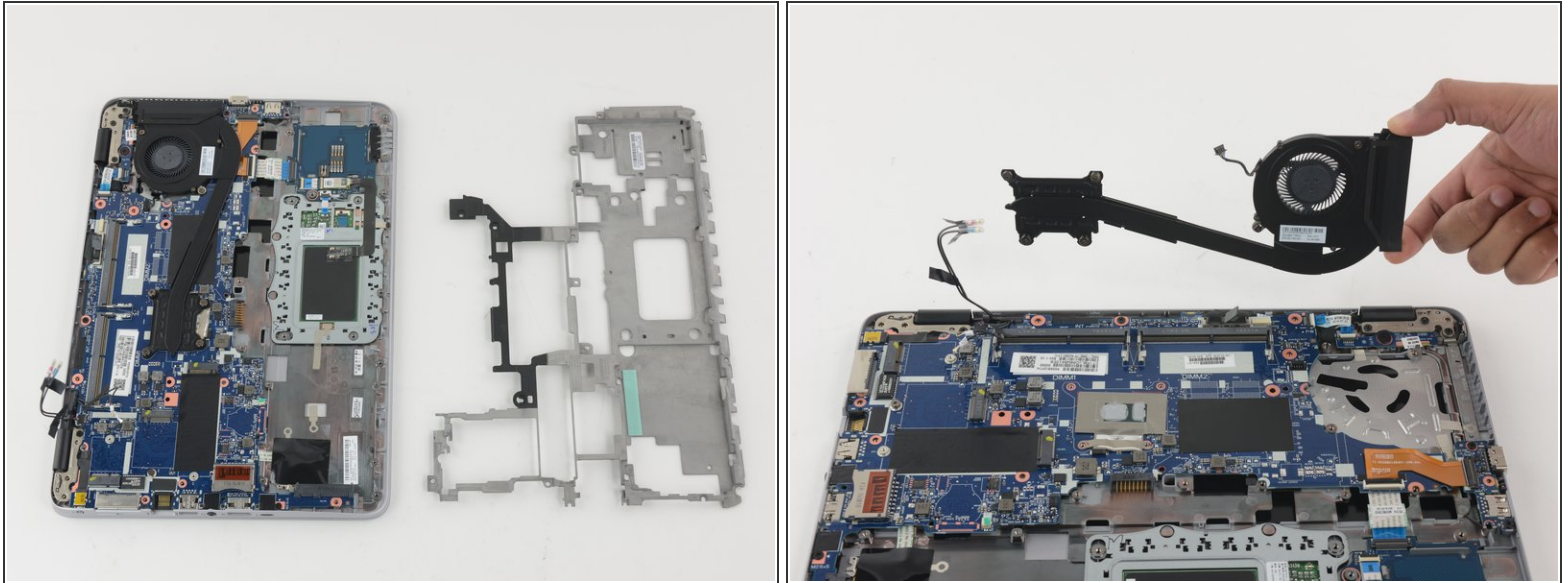- [The (free, online) HP repair manual](#) says to remove the keyboard before the motherboard, so we do that.

- The keyboard screws are labeled by size, making reassembly easier.

- The keyboard can be pried out after removing two Phillips screws.

Step 6

- The pointing stick (keyboard cursor control) board is modular and can be separated from the keyboard, making for less expensive repair.
  - The interconnect cable, and switch can likewise be separated.

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Step 7

- Now we remove the midframe. It's held in by three varieties of Phillips 0 screws (M2.5 x 5, M2.0 x 7, and M2.5 x 2.5) — 26 in total.

  - Without documentation it'd be tough to know precisely *which* 26 screws are securing the midframe due to it's spread-out design.

  - Luckily, HP's got us covered by providing a service manual for this device.

- Removing the next component, the heat-sink/fan combo is more straightforward. Its six screws are numbered to indicate order of removal. This simplifies reassembly.

Step 8
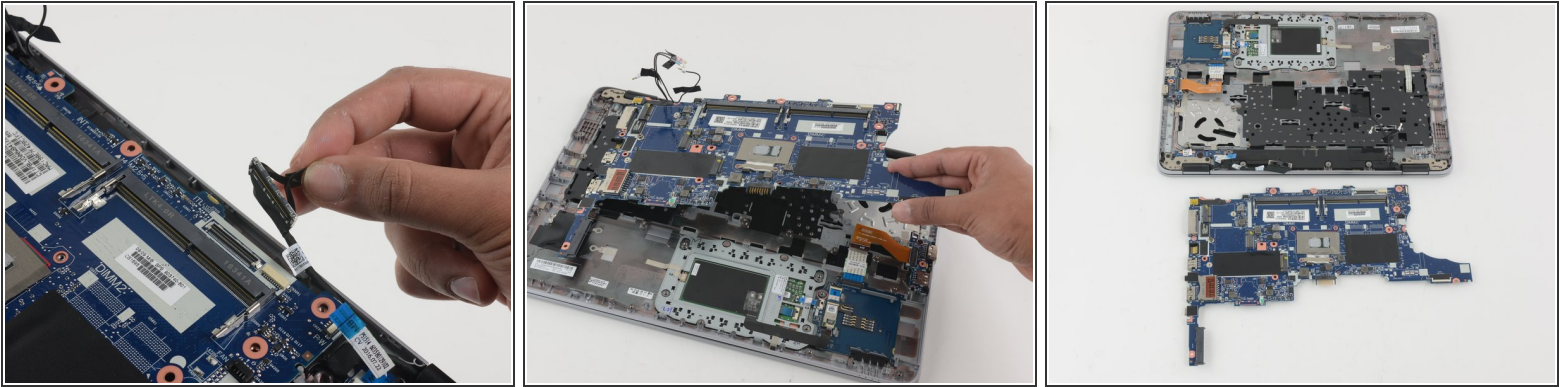
- After removing screws and disconnecting cables, the motherboard is ready to slide free.

  - The display connector has a convenient tab for handling, making the delicate re-insertion procedure simpler and safer.

- With the screws removed, the motherboard is easily removed from the lower case.

- Unlike some notebooks that have separate I/O boards for DC-in or an SD card reader, all ports except a USB and VGA live directly on the motherboard.

  - ⓘ This design feature means that if any ports break (as heavily-used power jacks are likely to), you'll need to replace the whole motherboard or perform board-level repair to fix it.

Step 9

- Lower palmrest peripherals are comprised of:

  - The trackpad, which is secured by grounding tape and Phillips 0 screws.

  - The smartcard reader assembly (including status LEDs), secured by Phillips screws.

  - The I/O board (USB and VGA), secured by Phillips screws.

    - Port break-out boards make for less expensive replacements of high-wear components like USB ports.

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Step 10
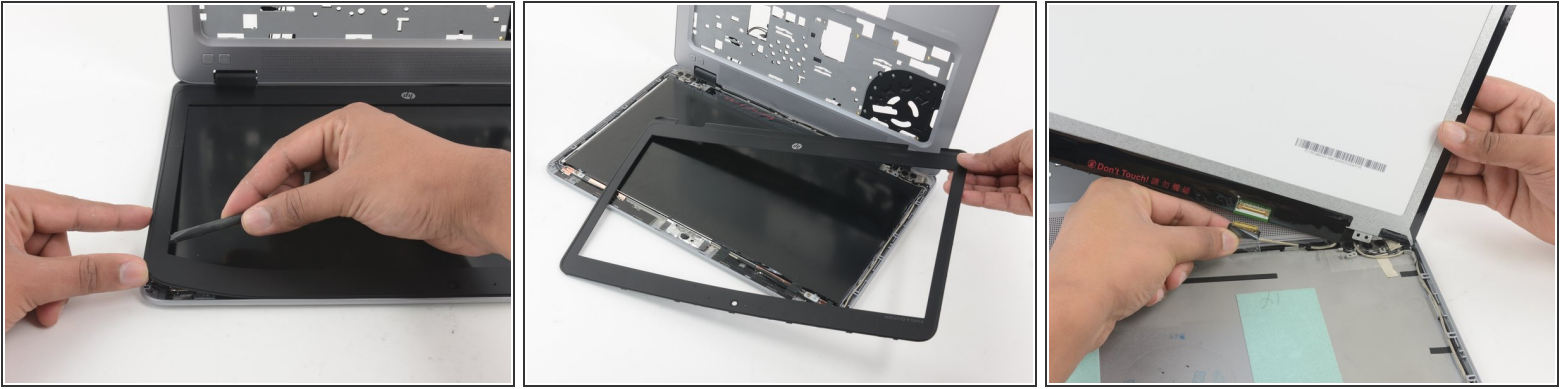
- The display bezel can be a first-out component, not requiring the above disassembly.

- The bezel is secured with plastic clips, prying is relatively simple, but care must be taken to avoid scratching the unprotected display.

- The LCD is secured with four screws and has a single display data interconnect cable plugged into the back.

- (i) Displays are high priority components in laptops as they are fragile and easily broken. A display that is accessible with minimal disassembly, and which has no peripheral components built in means a quick, inexpensive repair.

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Step 11

- The display frame is simply attached to the palm rest with four Phillips screws.

- The palm rest contains final peripheral components including: fingerprint scanner, speakers, and the power button board.

  - The above components are modular and not high-wear components. The power button is the most likely to fail and is reasonably accessible.

Step 12

- The HP EliteBook 840 G3 earns a **10 out of 10** on our repairability scale (10 is the easiest to repair):
  - RAM, SSD, and battery are easily accessible and removable.
    - (i) Along with the spare hard disk slot for memory expansion, the computer is upgradable, in addition to repairable making for a longer device life.
  - All moving parts, including keyboard, trackpad, and pointing stick are modular and can be quickly replaced.
  - The display is immediately replaceable, without any unnecessary disassembly.
  - All screws are Phillips #0 and #00.
  - Manufacturer provides user-accessible [repair documentation](#) and sells replacement parts.

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