Lenovo ThinkPad X1 Carbon 6th Gen
Motherboard Replacement

This guide details how to replace the motherboard in a Lenovo ThinkPad X1 Carbon 6th Gen.

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INTRODUCTION

In this guide, you will learn how to replace the motherboard in a Lenovo ThinkPad X1 Carbon 6th Gen. Be sure to power off your device and disconnect it from any power source before beginning.

TOOLS:

- Phillips #0 Screwdriver (1)
- iFixit Opening Tools (1)
- iFixit Opening Picks set of 6 (1)
- Nylon Tipped Tweezers (1)
Use a Phillips #0 screwdriver to unscrew the five screws that secure the back cover to the laptop.

The screws do not completely come off from the back cover. Loosen until the screws are completely loose.
Step 2

- Use a Jimmy to lift the cover directly up off of the locating pins.

- Though a metal opening tool is shown in the image, we recommend using plastic opening tools to minimize any cosmetic damage.

- Remove the back cover.

- If you encounter resistance when lifting the cover, revisit the screws to see if any of them are still threaded on to the device.
Step 3 — Fan

- Use a Phillips #0 screwdriver to loosen the four screws that secure the fan to the motherboard.

- The screws do not completely come off from the fan mount. Loosen until the screws are completely loose.
Step 4

- Use nylon tipped tweezers, or your fingers, to gently pull the fan's power cable towards the SSD, disconnecting it from the pins.

Be sure to pull on all of the cables at the same time.
Step 5

- Use a plastic opening pick to lift the fan mount.
- Use your fingers to gently pull the fan diagonally away from where it is connected.

Step 6

- Turn the fan over to expose the interior.
- If necessary, clean out the fan or wipe away and replace the thermal paste.
Step 7 — Motherboard

- Remove each of the 7 main ribbon cables that connect the motherboard to the rest of the laptop.
- Detach the last ribbon cable in the same way as before.

⚠️ These connectors and cables are all very fragile. Handle with care.

- For the red and orange cables, use a spudger to lift the black plastic bar.

ℹ️ The bar should be lifted to the point where it can move easily.
Step 8

- Place a spudger under the cables to disconnect them from the WAN card.

Tweezers or a hook may also be used for this step.

Step 9

- Use a Phillips #00 screwdriver to remove the two 3mm screws that secure the IO bracket.
Step 10

The antenna brackets act as a securing mount for the motherboard to the device.

- Remove the two 3mm antenna bracket screws using a Phillips #00 screwdriver.

Step 11

- Lift from the location of the screw towards you. Then pull towards the screw side to remove the bracket.
Step 12

The housing for the SD card slot is directly attached to the device.

- Remove and unscrew the two 5mm screws with a Phillips #0 screwdriver.

Step 13

- Using an iFixit SIM card screw head tip, apply pressure to the hole to disconnect the SD card slot from the device.
Step 14

- Use a Phillips #00 screwdriver to remove each of the four remaining 3mm screws securing the motherboard to the device.

Step 15

- Lift from the top of the motherboard towards you.
- Pull away from the IO port side to remove the motherboard.
To reassemble your device, follow these instructions in reverse order.