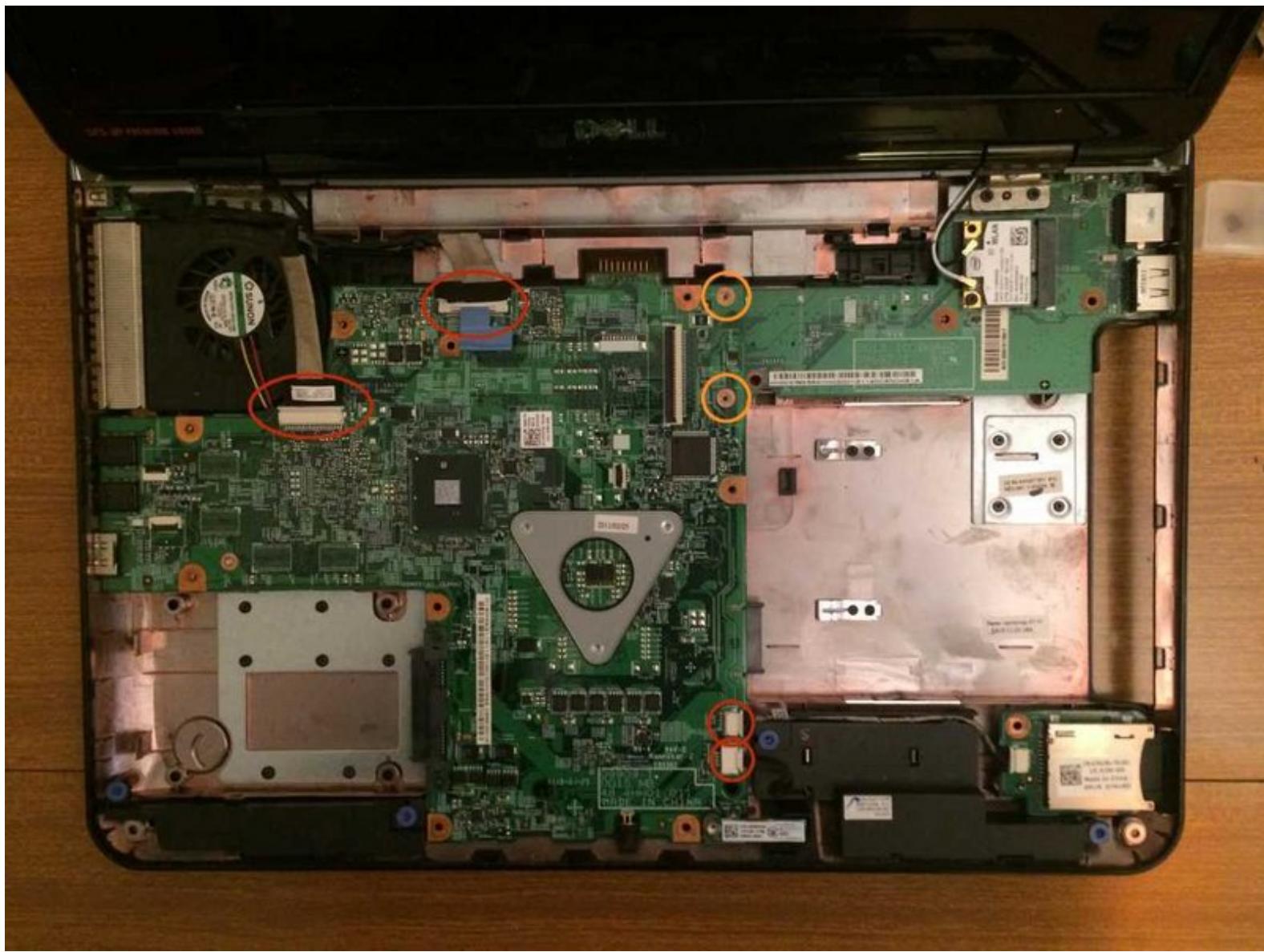




Dell Inspiron 15 (N5010) Motherboard Removal and Fan Cleaning Replacement

This guide shows how to remove the motherboard and clean the fan for a Dell Inspiron 15R.

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INTRODUCTION

Overheating in a laptop is commonly caused by a fan clogged with dust and fluff. Mild cases can be cured by applying a vacuum cleaner to the vents and/or probing the outlet vent to dislodge matted dust, but disassembly is required for more thorough cleaning. From this guide you will be able to access all the main components of the laptop.

TOOLS:

- [64 Bit Driver Kit \(1\)](#)
- [Jimmy \(1\)](#)
- [Tweezers \(1\)](#)

Step 1 — Battery removal



- Turn the laptop over and unlock the battery by sliding the two locking tabs away from each other. The one on the left is spring loaded. Slide the battery out.
- Simply slide the battery out in the direction shown.

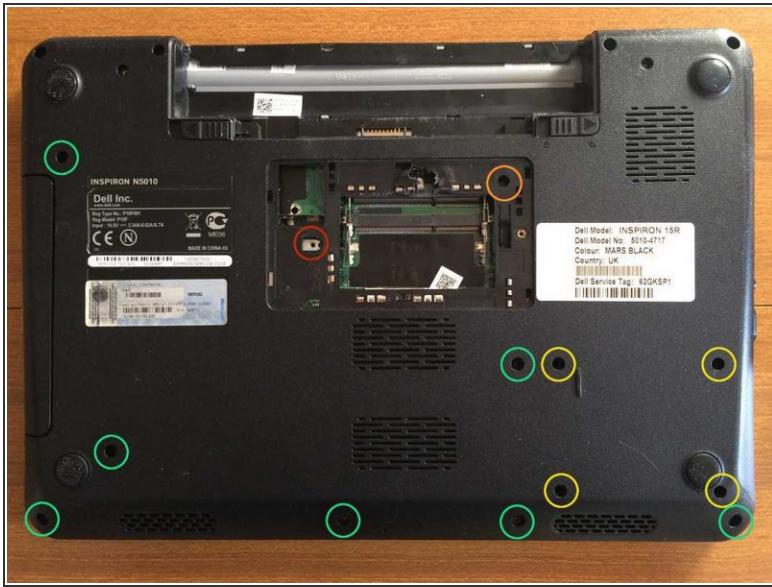
Step 2 — RAM removal



- Undo the locking screw on RAM cover, then prise open the cover.
- Release the RAM module or modules by pushing the metal clips outwards. Put the modules aside.

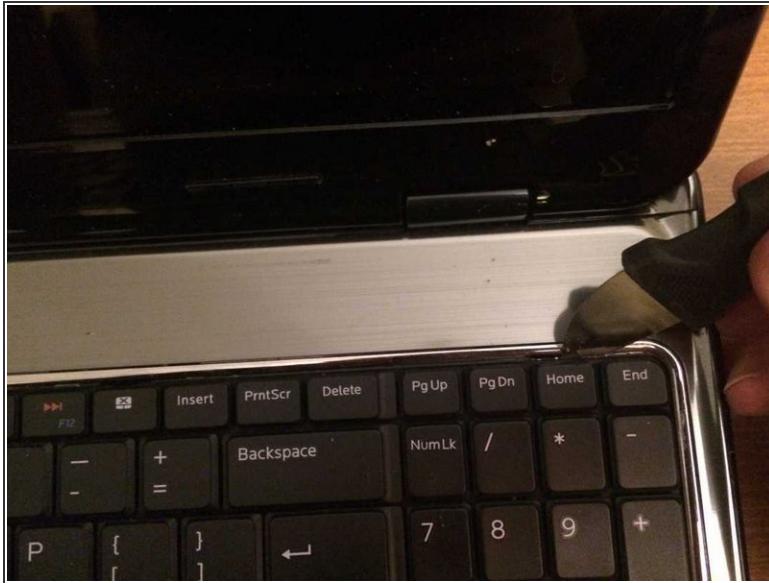
(i) On reinserting the RAM modules, ensure that they are fully home in their sockets before angling them downwards to engage the clips.

Step 3 — Bottom screws



- ⓘ Note: if the laptop you are working on is a very slightly different model it is possible that it will have a different number of screws in slightly different positions. The important thing is to note where the shorter screws come from so as to avoid inserting a longer screw in its place on reassembly.
- Remove a 5mm screw to the left of the RAM sockets, then pull out the CD/DVD drive. (Not necessary if you are only replacing the keyboard.)
- Remove a 5mm screw to the right and the rear of the RAM sockets. If you just want to replace the keyboard, skip to the next step.
- If you are going to remove the hard disk, motherboard or fan, remove 4 3mm screws.
- Remove 7 5mm screws. (There are 6 more at the rear which should be left.)

Step 4



- With a thin metal spudger you should now be able to release 4 clips along the top of the keyboard in order to lift it out.

⚠ If you find one or more of the tabs refuse to release, do not force it. You probably missed one (or more) of the screws in the bottom.

- Lift the keyboard slightly from the back, disengaging its tabs along the front panel at the front. Turn it over towards you, taking care not to strain the ribbon.
- Gently lift the locking bar on the ribbon socket and withdraw the ribbon. Put the keyboard aside.

Step 5 — Hard Disk



- Gently lift the black locking tabs and disconnect the 3 narrow ribbon cables.
- On reassembly, after closing the locking tabs, pull gently on the ribbons. If they come out of the sockets then they weren't fully inserted. Fully inserting them can be a little fiddly, and tweezers can help.
- Remove 5 screws labelled M2.5x5 on the mid plate.

Step 6



- Using a spudger, release the front panel from its clips on the front and both sides. If you cannot easily release it, it will be because you have missed one of the screws on the bottom.
- Once released, gently lift the front panel and put it aside.

Step 7



- Lift the hard drive connector out of its socket and hence remove the hard drive.
- If you are replacing the hard drive with another one (or with an SSD), transfer the connector from the old drive to the new. This simply pushes on.

Step 8 — Motherboard removal



- Disengage two adjacent small connectors at the front right hand side of the motherboard. Do not pull by the wires, but rather ease the plugs out of their sockets.
- Disengage two connectors towards the rear of the motherboard. The one with the blue tab is disengaged simply by pulling upwards on the tab. On reassembly, make sure it is properly aligned before pressing it back. It should engage with a positive snap.
- Remove two screws at the rear right hand side of the motherboard.
- On the underside of the motherboard between the two screws just removed, the motherboard plugs into a socket on the supplementary IO board to its right. Lift this section of the motherboard to disengage the connector, then lift it out of the laptop shell.
- On reassembly and before replacing the screws, make sure that none of the 4 cables disconnected at the start of this step are trapped under the motherboard.

Step 9 — Fan removal and cleaning



- Turn the motherboard over and disconnect the fan.
- Remove 4 small screws which retain the fan.
- Turn the motherboard the right way up again and lift off the fan. remove any build-up of dust, and blow through the radiator fins to ensure they are clear.

⚠ It is best not to remove the heat sink and heat pipe from the processor if not strictly necessary since new thermal paste, carefully and correctly applied is required when refitted, otherwise the processor is liable to overheat, causing it to spontaneously shut down.

To reassemble your device, follow these instructions in reverse order.