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INTRODUCTION

How to reach the motherboard.



TOOLS:

- [Arctic Silver ArctiClean](#) (1)
- [Arctic Silver Thermal Paste](#) (1)
- [Phillips #00 Screwdriver](#) (1)
- [Spudger](#) (1)
- [T6 Torx Screwdriver](#) (1)



PARTS:

- [MacBook Pro 15" \(Model A1211\) 2.16 GHz Logic Board](#) (1)
- [MacBook Pro 15" \(Model A1211\) 2.33 GHz Logic Board](#) (1)

Step 1 — Battery



- Use your fingers to push both battery release tabs away from the battery, and lift the battery out of the computer.

Step 2 — RAM Shield



- Remove the three identical Phillips screws from the memory door.

Step 3



- Lift the memory door up enough to get a grip on it, and slide it toward you, pulling it away from the casing.

Step 4 — Upper Case



- Remove the two 2.8 mm Phillips screws in the battery compartment near the latch.

Step 5



- Remove the following 6 screws:
 - Two 10 mm T6 Torx screws on either side of the RAM slot.
 - Four 14.5 mm Phillips screws along the hinge.

Step 6



- Remove the four 3.2 mm Phillips screws on the port side of the computer.

Step 7



- Rotate the computer 90 degrees and remove the two 3.2 mm Phillips screws from the rear of the computer.

Step 8



- Rotate the computer 90 degrees again and remove the four 3.2 mm Phillips screws from the side of the computer.

Step 9



- ❗ Do not yank the upper case off quickly. The case is attached to the logic board via a ribbon cable.
- Lift up at the rear of the case and work your fingers along the sides, freeing the case as you go. Once you have freed the sides, you may need to rock the case up and down to free the front of the upper case (there are some hidden plastic clips that need to be clicked off).

Step 10



- Disconnect the trackpad and keyboard ribbon cable from the logic board, removing tape as necessary.
- Remove the upper case.

Step 11 — Optical Drive



- Disconnect the orange SuperDrive ribbon cable from the logic board, removing tape as necessary.

Step 12



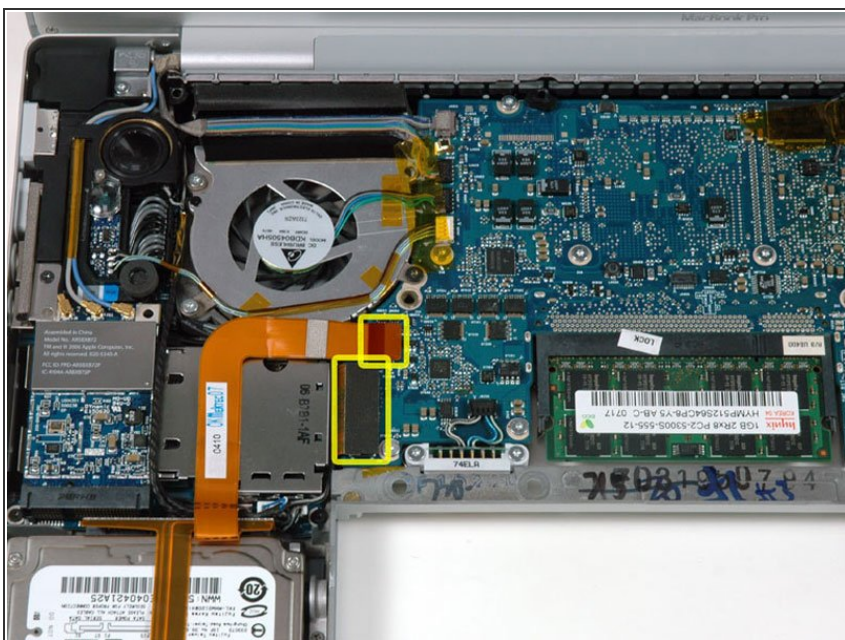
- Remove the following 4 screws:
 - Two 3.3 mm silver Phillips screws on either side of the SuperDrive.
 - One 4.7 mm silver T6 Torx screw from the top left corner of the drive
 - One 6.2 mm black Phillips screw at the top right corner of the drive.

Step 13



- Lift the optical drive up and out of the computer.

Step 14 — Logic Board



- Disconnect the hard drive and ExpressCard connectors from the left side of the logic board.

Step 15



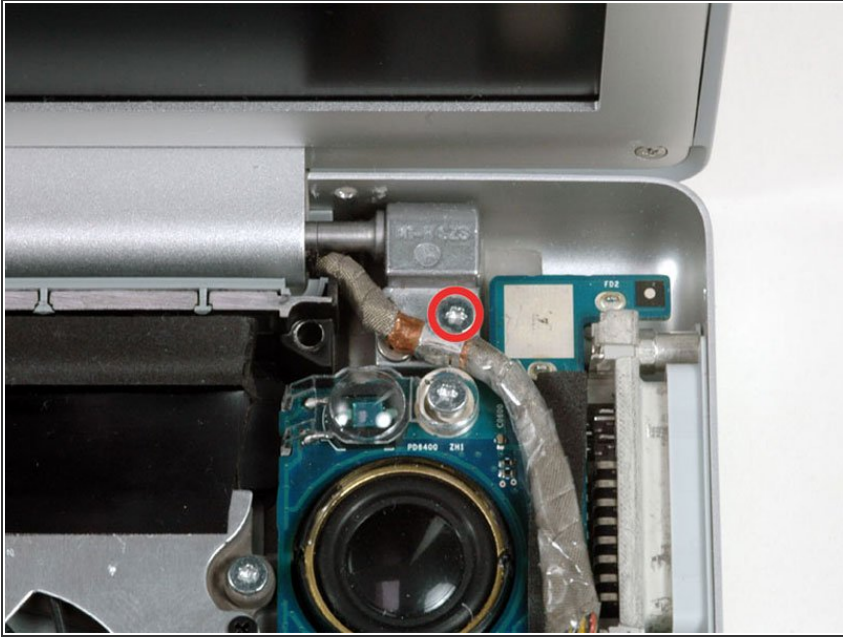
- Disconnect the iSight and display data cables from the logic board by sliding the cables out of their connectors, removing tape as necessary.

Step 16



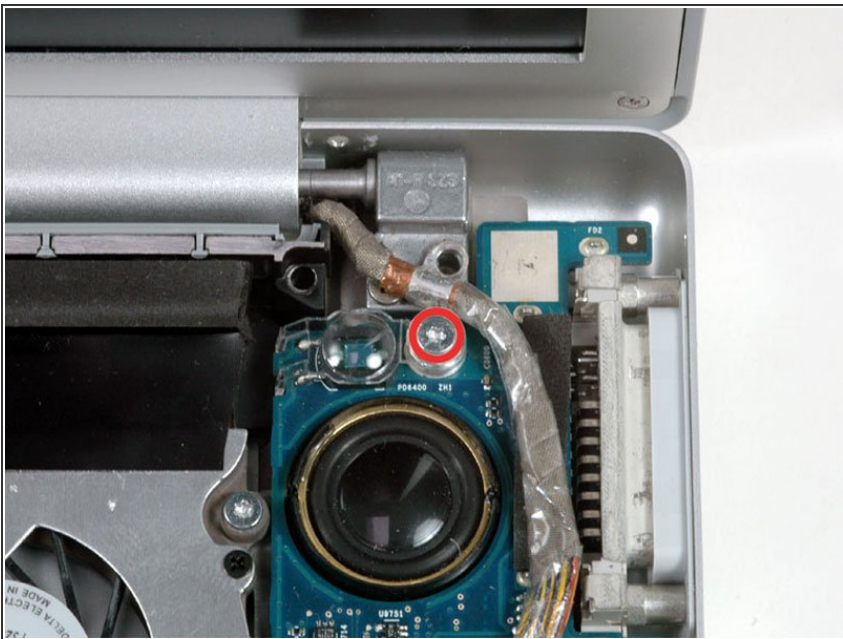
- Disconnect the eight indicated connectors by placing a spudger beneath each cable and lifting up.

Step 17



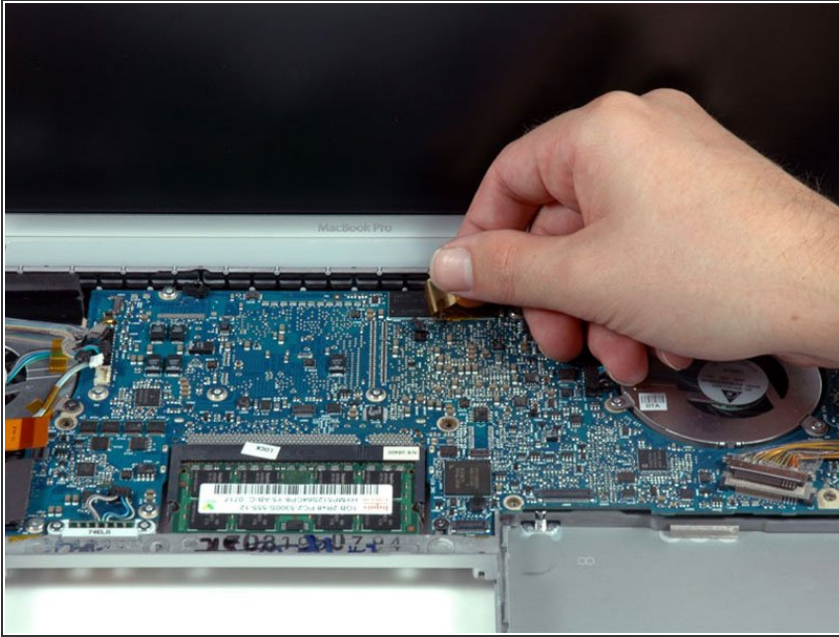
- Remove the silver T6 Torx screw securing the ground loop in the display data cable to the casing.

Step 18



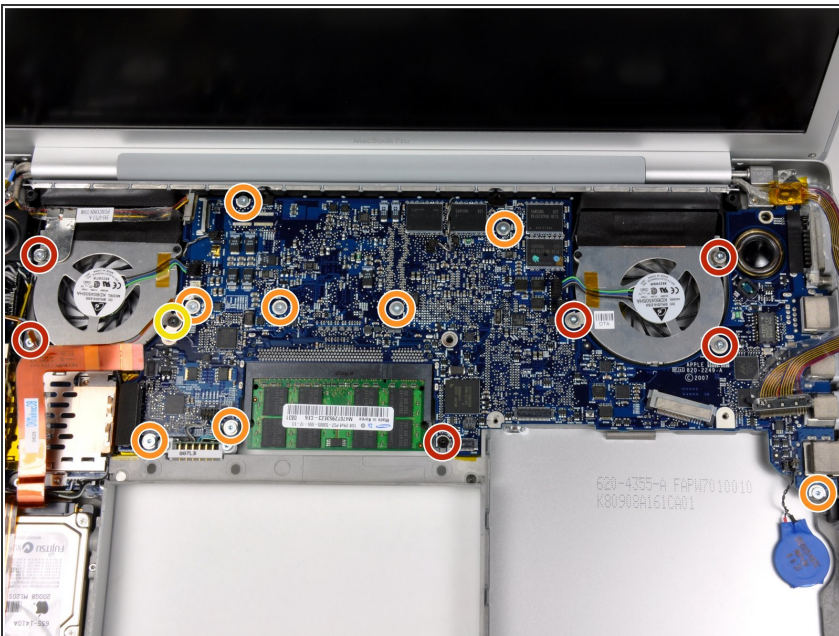
- Remove the single T6 Torx screw securing the clear plastic shield over the right ambient light sensor.
- Lift the clear plastic shield off the right ambient light sensor.

Step 19



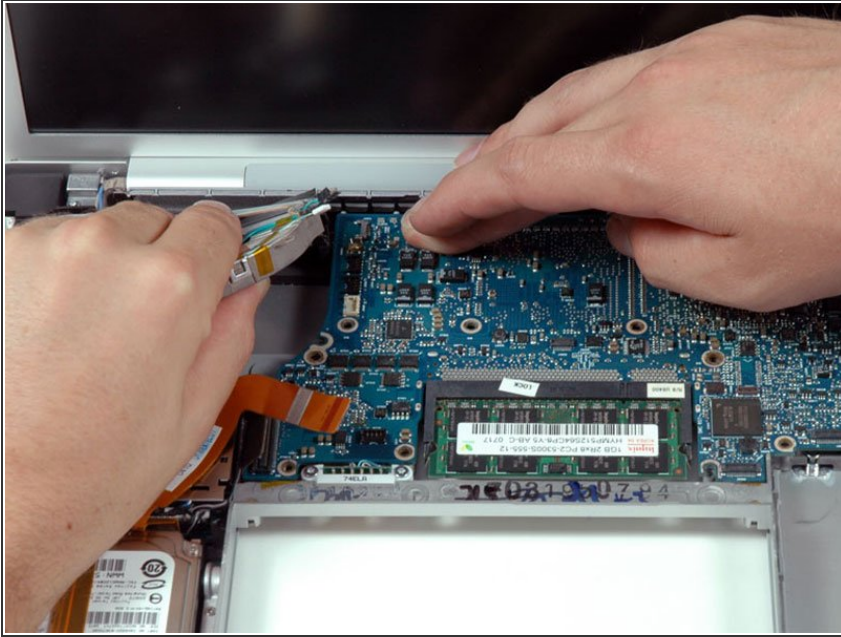
- Peel up the orange Kapton tape securing the right thermal sensor cable to the logic board.

Step 20



- Remove the following 15 screws:
 - One 4.4 mm black Phillips screw to the right of the ram slot.
 - Eight 4.7 mm silver T6 Torx screws securing the logic board to the lower case.
 - One 6.2 mm black T6 Torx screw on the right side of the left fan.
 - Five 9.4 mm silver T6 Torx screws securing the left and right fans.

Step 21



- Hold the logic board down with one hand and use your other hand to lift the left fan up from its housing. There is a piece of black tape securing the fan to the heat sink. Carefully peel this tape up from the heat sink as you lift the fan up.
- Place the fan above the Airport card. It is not necessary to remove the fan from the computer entirely.

Step 22



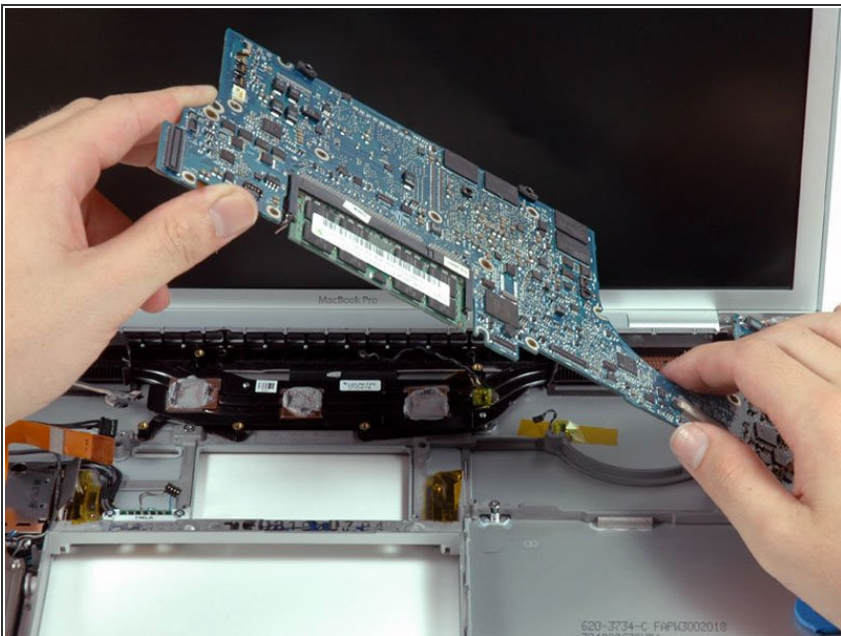
- Lift the right fan up and carefully peel up the tape securing the fan to the heat sink as you go.
- Remove the right fan from the computer.

Step 23



- Lift up the left side of the logic board and disconnect the gray and black power cable from the bottom of the board.

Step 24



- Grasp the logic board at the left side and at the thin section, and rotate the logic board out of the lower case.
- ⓘ To properly reassemble your MacBook Pro, you'll have to clean off and replace the old thermal compound. Use our [Applying Thermal Paste Guide](#) to prepare the processor and heat sink surfaces.

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