Toshiba Tecra M5 CPU Replacement

This guide explains how to upgrade the CPU on a Tecra M5.

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INTRODUCTION

I swapped out a T2400 CPU, replacing it with a T7600, which as far as I can tell is the fastest Intel CPU that can go into a Tecra M5. According to benchmarks, the new CPU provides a [48% performance boost](#). I found a "buy it now" replacement CPU on eBay for $20.90; you may be able to find one for less.

There are some tricky steps in this guide. It should only be attempted by those who are very comfortable working in the cramped confines of a laptop computer.
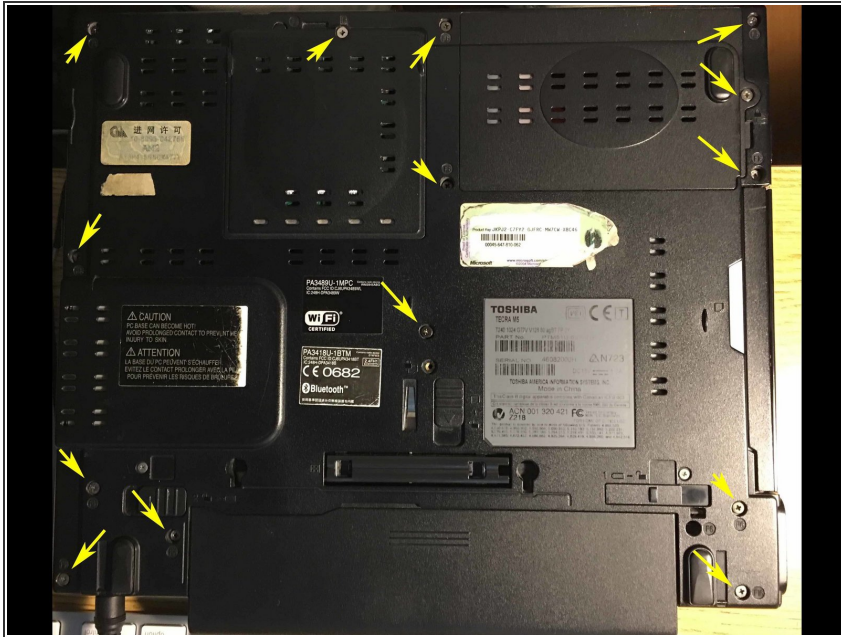
TOOLS:

- [Mini Philips Head Screwdriver](#) (1)

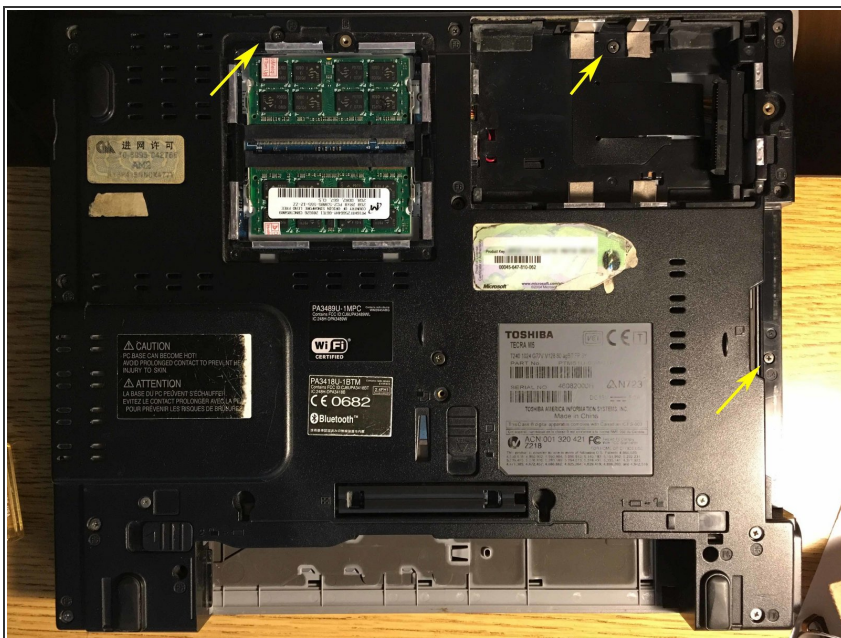### PARTS:

- [Intel T7600 Core 2 Duo CPU Chip](#) (1)
- [USB Floppy Drive](#) (1)
- [Floppy Disk](#) (1)
- [Arctic Silver Thermal Paste](#) (1)

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Step 1 — Remove Screws

- Power down the laptop. Flip it over and remove only the indicated screws.

## Step 2 — Remove Hidden Screws

- Remove the cover for the memory compartment. Then remove the indicated screw hidden under the cover.

- Remove the cover for the hard drive compartment. Remove the hard drive. Then remove the indicated screw hidden under the hard drive.

- Remove the optical drive by pulling on it while holding the middle sliding lever. Then remove the indicated screw hidden under the optical drive, at the edge of the laptop.

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Step 3 — Unscrew the Keyboard
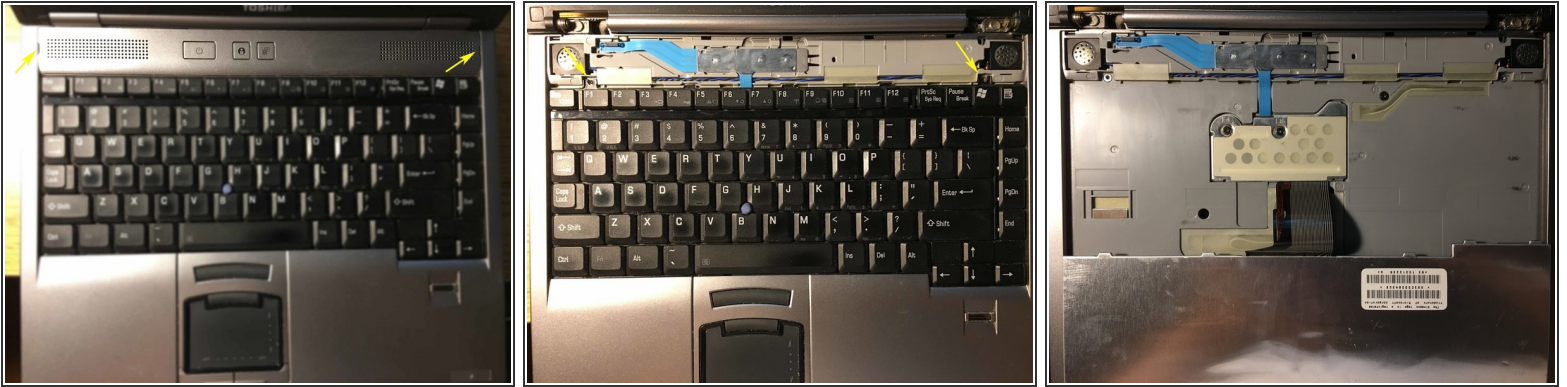
- Open the laptop all the way. Remove the plastic trim plate above the keyboard, by gently prying at the indicated points. See first photo.

- The trim plate conceals two screws that hold the keyboard. Remove these screws. See second photo.

- Pull the top of the keyboard up and out. Flip the keyboard toward you, exposing the ribbon cable. See third photo.

Step 4 — Remove Ribbon Cables
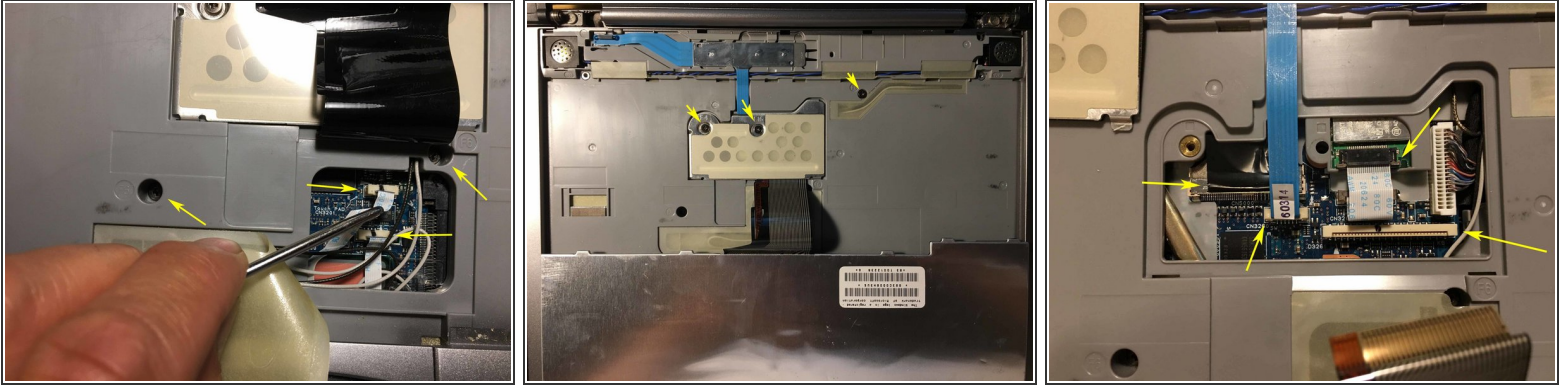
- Remove the two screws adjacent to the translucent cover.

- Peel back the translucent cover. Remove the two narrow white ribbon cables by gently pulling up on their collars to release the connector, and then sliding the ribbon cable out.

- Remove the metal cover held down by two screws. Remove the additional screw to the right of the cover. See second photo.

- Detach the keyboard ribbon cable from the connector by gently pulling up on the long white collar to open the connector. See third photo.

- Detach the blue ribbon cable in the same manner.

- Detach the white ribbon cable from the connector by gently pulling the gray connector collar toward you.

- Detach the black display ribbon cable by gently pulling it straight up off the motherboard.

Step 5 — Separate the Case Top and Bottom
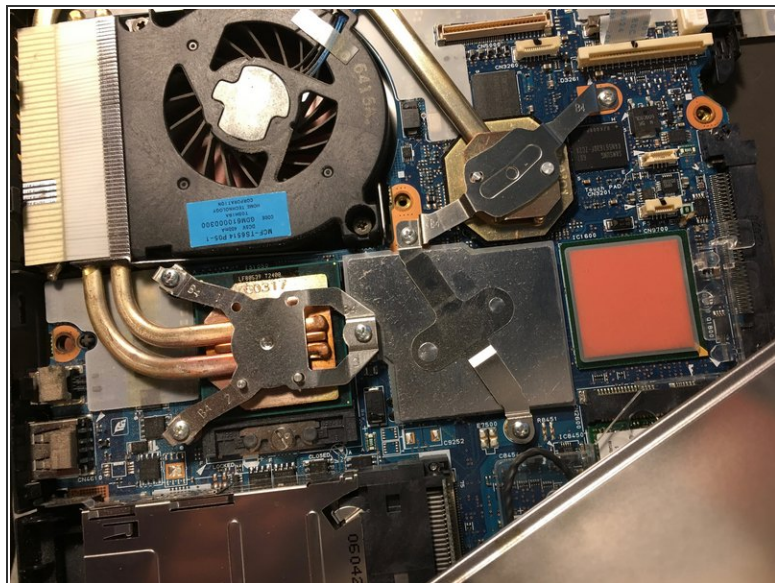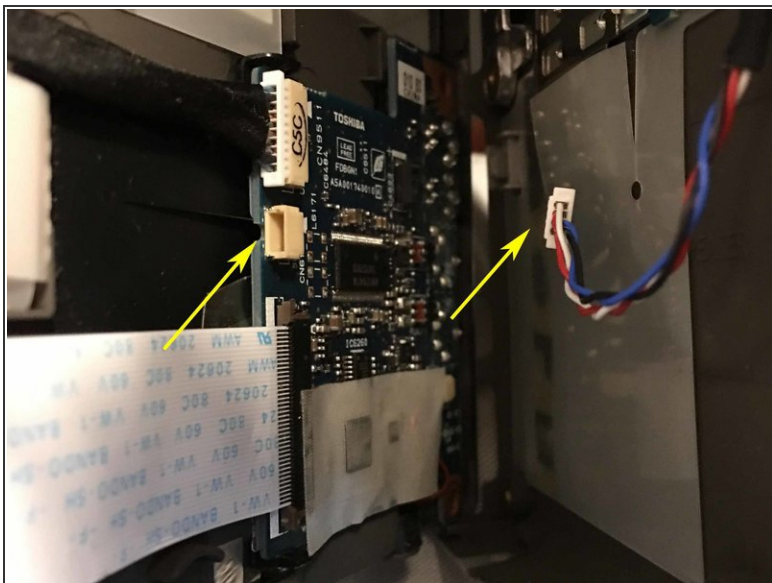
⚠ Turn the laptop upside down. Release plastic tabs holding the case top to the case bottom. Use caution because some cables limit the range of motion.

- Peeking in from the side, disconnect the red, white, blue and black cable by carefully pulling the connector out of the socket.

- Move and rotate the case bottom out of the way, exposing the CPU and CPU fan assembly. See second photo.

⚠ Some cables between the case halves remain connected. Take care not to break them or pull them out of their connectors.

Step 6 — Remove Fan Assembly
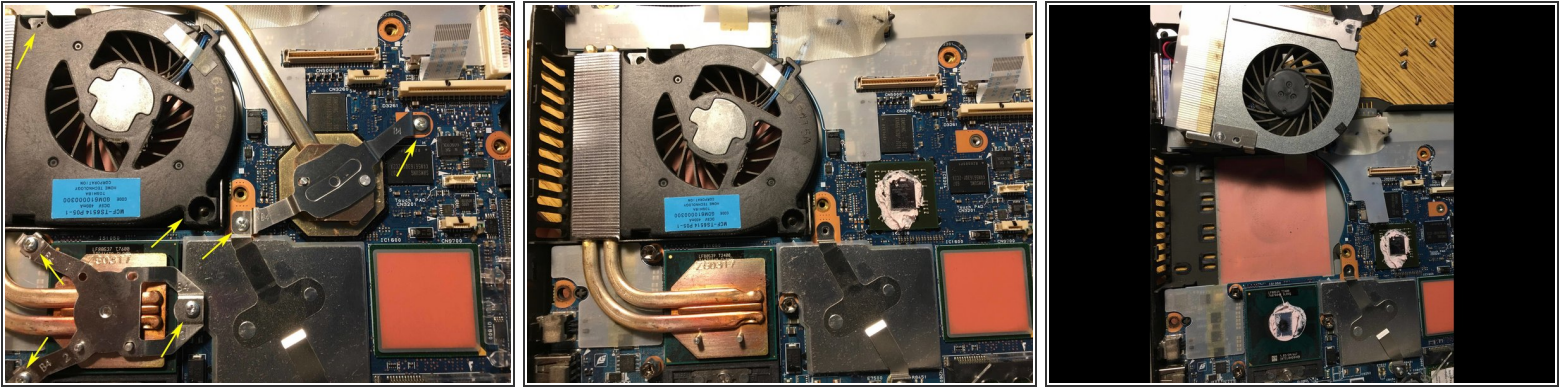
- Remove the indicated screws. See first photo.

- Remove the sheet metal straps holding the copper heat pipes to the chips. See second photo.

- Remove the copper heat pipe to the upper chip.

- Flip the fan over, exposing the socketed CPU chip. See third photo.

Step 7 — Swap the CPU Chip
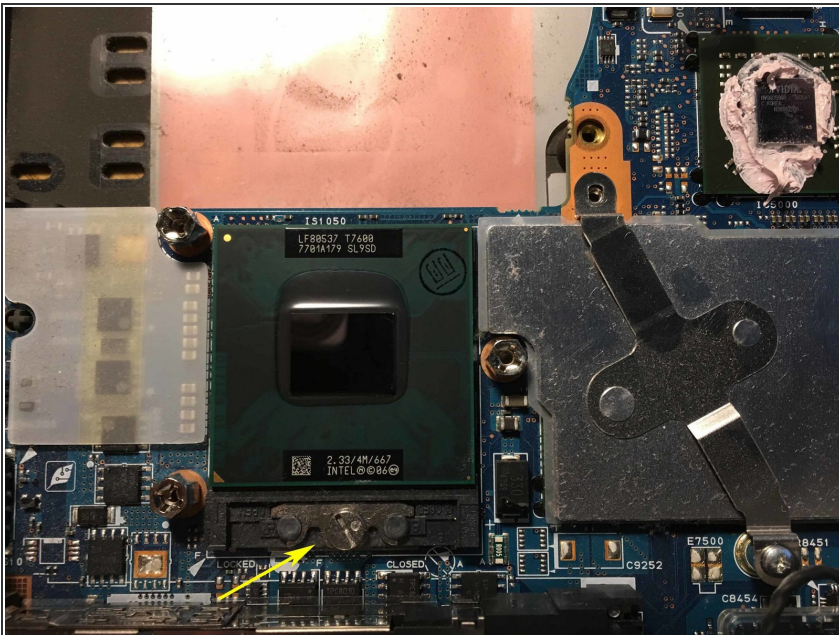
- Turn the ZIF retaining screw to release the CPU chip. When properly released you will be able to easily lift the CPU out of its socket.

⚠ Insert the new CPU into this socket. Note carefully that you must line up the corner of the chip with the two missing pins and the corner of the socket with the two missing pin holes.

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- Apply heat sink compound to the raised portion of new CPU chip. Also apply heat sink compound to the smaller chip in the upper right corner of the photo.

Step 8 — Reassemble
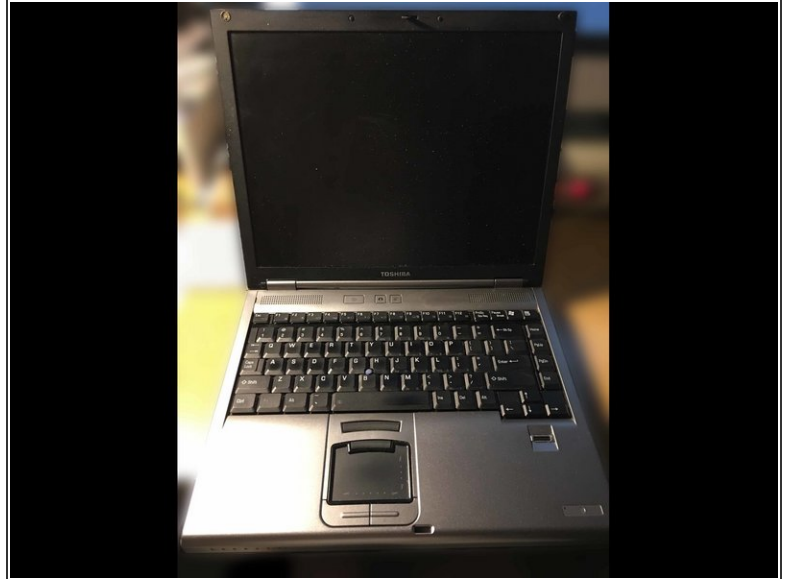
- (i) Follow the procedure in reverse to reassemble the laptop. Note that almost all of the case screw holes indicate the length of the screw that belongs there. See first photo.

- Boot the computer and log in. The Windows Settings/System/About dialog will still show the old processor. Let's jump through a few more hoops to fix this.

Step 9 — Create a Toshiba Maintenance Floppy
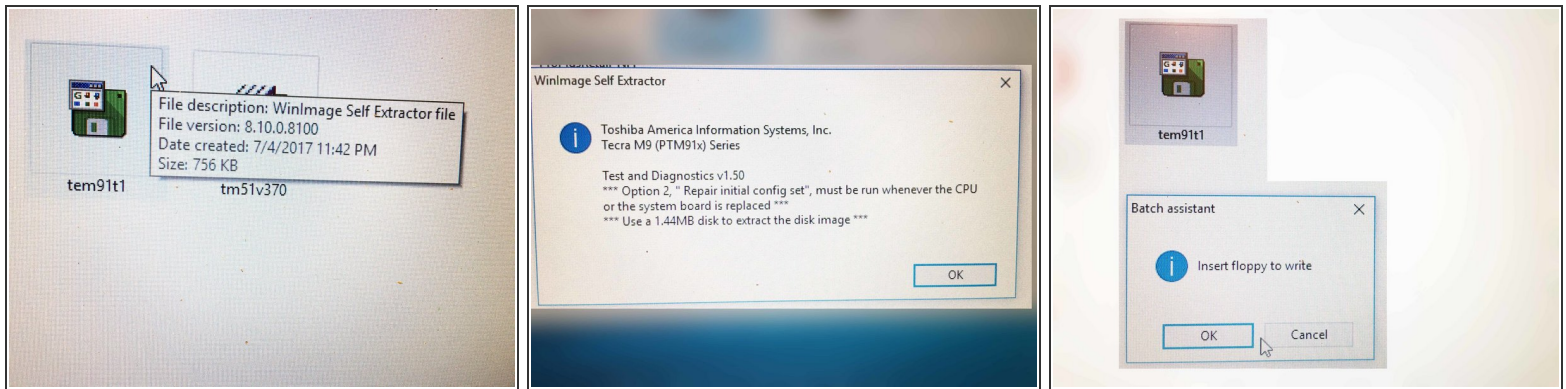
- Download the [Toshiba tem91t1 maintenance tool](). This must be run whenever the CPU changes.

- The download creates a bootable floppy that runs the maintenance tool on your laptop. It wants to create a floppy disk, so run this on a PC that has a floppy drive.

Step 10 — Boot from the Floppy
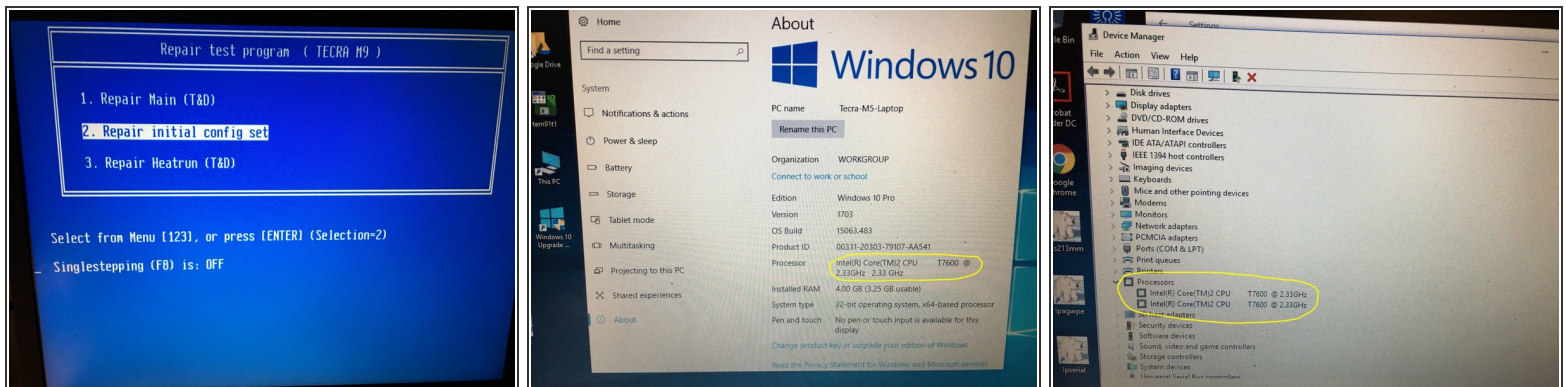
- Boot your Tecra M5 from the maintenance floppy. Select option 2: Repair initial config set. This is supposed to shut down your system when it finishes, but it failed to terminate on my laptop. Eventually I removed the floppy and rebooted my Tecra M5 laptop.

- The Settings/System/About dialog now shows the updated CPU.

- The device manager now shows the updated CPU.

- (i) Running the maintenance tool is also supposed to cure the problem of the fan running at full speed following a CPU upgrade.

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

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