Reflowing Xbox 360 Motherboard

Reflow the solder on your Xbox 360's motherboard.

Written By: Andrew Bookholt



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INTRODUCTION

Use this guide to reflow the solder on the chips that usually cause the Xbox 360 to have a Red Ring of Death (RROD) failure. You'll need the high temperature output of a heat gun to accomplish the reflow.

Reflowing the motherboard of your Xbox 360 allows the solder balls located beneath the CPU, GPU, RAM, and other chips to reconnect with their contacts on the motherboard. **To safeguard against future failure, we strongly recommend installing our Red Ring of Death Fix Kit after completing the reflow.**

TOOLS:

- Heat Gun (1)
- Flathead 3/32" or 2.5 mm Screwdriver (1)
- Spudger (1)
- TR10 Torx Security Screwdriver (1)
- TR8 Torx Security Screwdriver (1)
- Xbox 360 Opening Tool (1)

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Step 1 — Hard Drive





- Grasp the hard drive assembly and press the release button while lifting its front edge.
- Remove the hard drive assembly from the top vent.

Step 2 — Bottom Vent



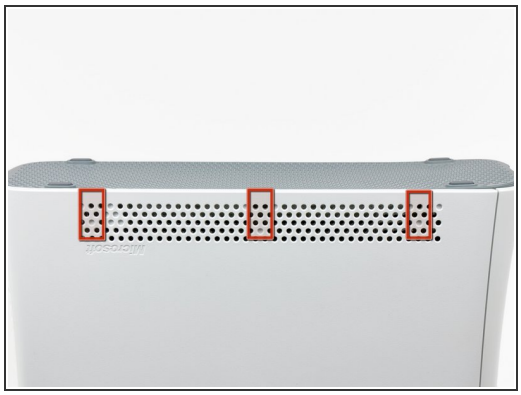
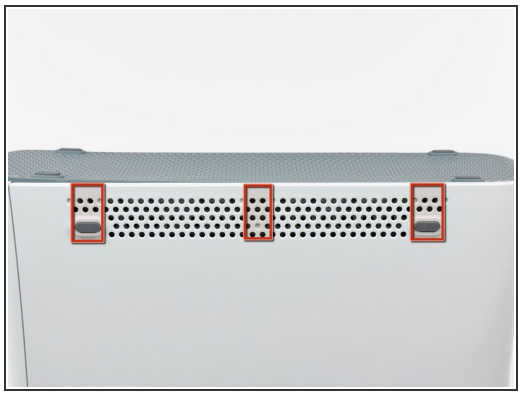
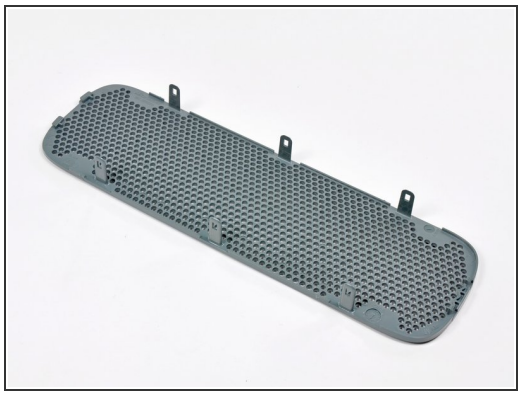
Stand the console vertically with the bottom edge facing up.

Throughout the following opening procedure, the finger of an Xbox 360 opening tool can be used in place of a spudger.

- Insert the flat end of a spudger or the edge of an Xbox 360 opening tool into the small gap at the front edge of the bottom vent.
- Pry the front edge of the bottom vent away from the faceplate.

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Step 3

In the next few steps, you will use the tip of a spudger or the finger of an Xbox 360 opening tool to release the clips along the left and right sides of the bottom vent. Their locations are highlighted in red.

You will insert the tool into the holes molded into the white plastic side case pieces.

Step 4




- To release the clips, work from the front edge of the bottom vent.
- While slightly lifting the front edge of the bottom vent, use the tip of a spudger to push the clips closest to the front of the bottom vent towards the inside of the console.

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Step 5





- Repeat the same process to release the two center clips on the bottom vent.

Step 6





- Use the tip of your spudger to release the clips on the bottom vent nearest the back of the Xbox.

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Step 7



- Remove the bottom vent from the 360.

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Step 8 — Faceplate





- Insert the flat edge of a spudger between the faceplate and the outer casing near the power button.
- Run your spudger along the edge of the faceplate to release the clips securing it to the front of the console.

You may also accomplish this task by using the edge of the Xbox 360 opening tool, but it may scratch the plastic case.

Alternatively, you can use your hands to carefully pull the faceplate away from the Xbox.

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Step 9



- Repeat the same motions as previously mentioned to release the left side of the faceplate.

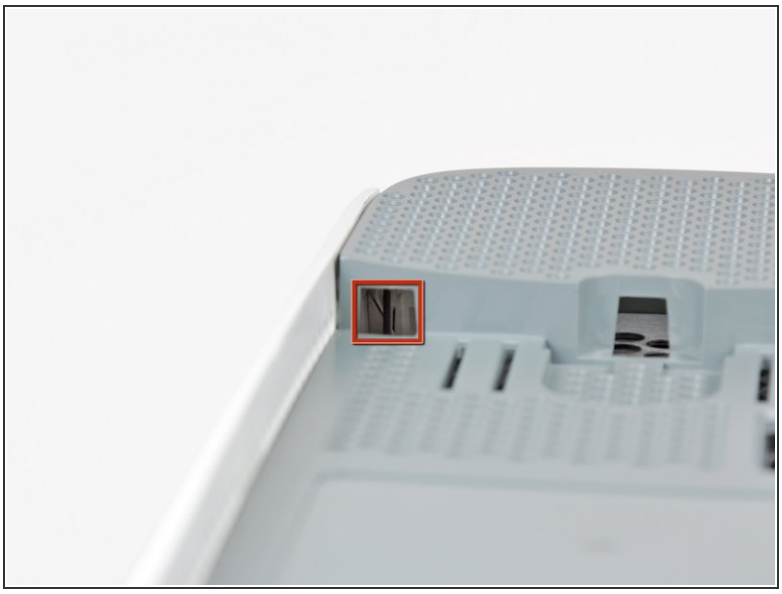
Step 10

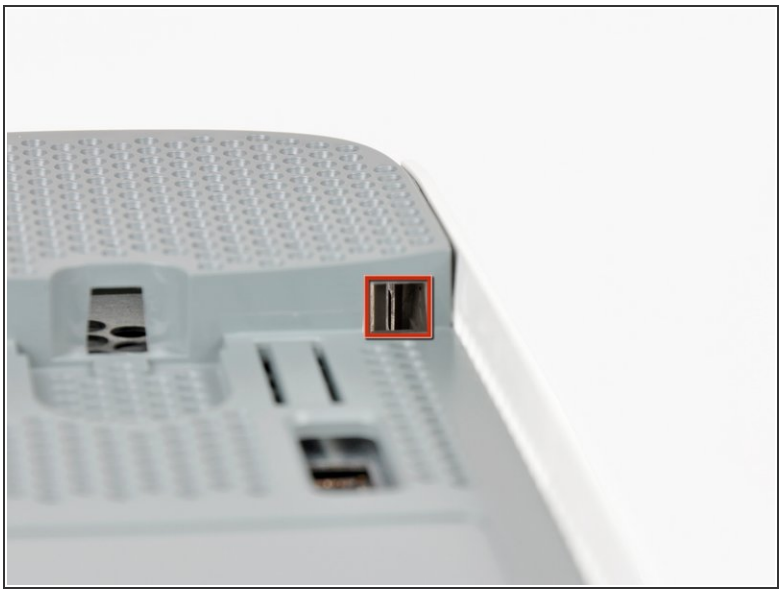


- Remove the faceplate from the front face of the console.

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Step 11 — Top Vent





Stand the console vertically with the top edge facing up.

- The top vent is secured to the console via clips. The first two clips are located underneath the top vent closest to the faceplate, as shown in the pictures.

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Step 12

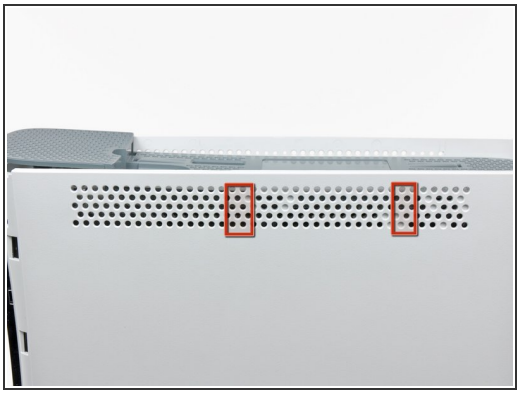


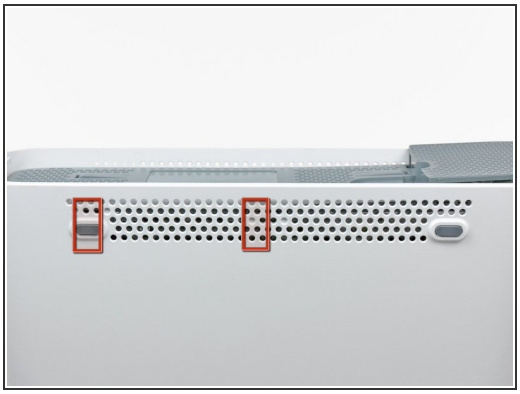


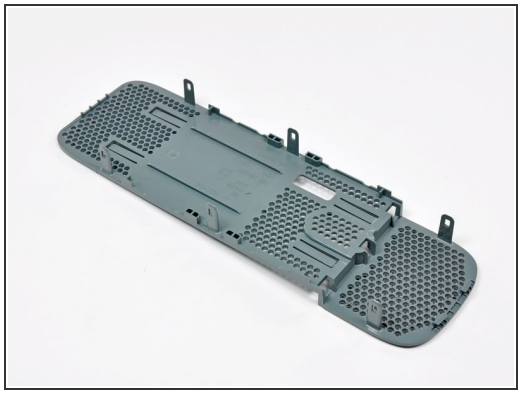
- Insert the flat end of a spudger into the small gaps previously mentioned to release the clips.

You may also use the long finger of an Xbox 360 opening tool to accomplish this task.

Step 13





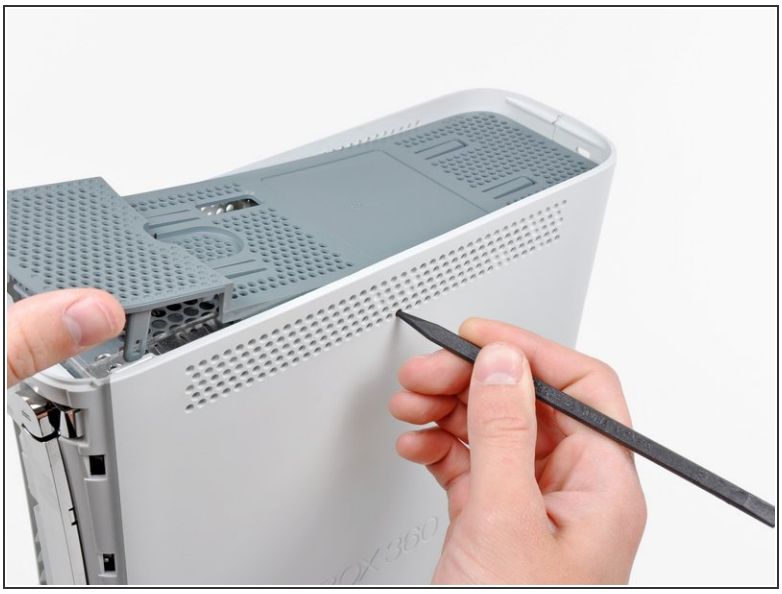


In the next few steps, you will use the tip of a spudger or the finger of an Xbox 360 opening tool to release the clips along the left and right sides of the top vent. Their locations are highlighted in red.

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Step 14





- To release the clips, work from the middle of the top vent.
- While slightly lifting the front edge of the top vent, use the tip of a spudger to push the clips closest to the center of the top vent towards the inside of the console.

Step 15



- Use the tip of your spudger to release the clip on the top vent nearest the back of the Xbox's upper case.

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Step 16





The last clip is hidden underneath the rubber foot nearest the back of the console.

- Use the tip of your spudger to release the clip on the top vent nearest the back of the Xbox.
- Remove the top vent from the 360.

Step 17 — Lower Case



- Stand the console vertically with the top edge facing down.
- Carefully peel the warranty sticker off the console.

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Step 18





The upper and lower cases are attached via several latches, located in the front and back of the console. These latches must be disengaged to separate the upper case from the console.

- Use the flat end of a spudger to release the following latches:
  - Above the front-facing USB ports.
  - Beneath the front-facing USB ports.
  - Above the Memory Unit slots.

Step 19



- Insert the flat end of a spudger and pry upwards to release the last remaining latch located above the eject button.

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Step 20



- Slightly lift the front portion of the lower case to ensure that the latches in the front have been completely released.

Step 21





The upper and lower cases are held together by seven release latches located on the back of the console. Their locations are highlighted in red.

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Step 22





- Press the Xbox 360 opening tool down into the clips securing the lower case to the upper case near the I/O ports.
- While pressing down on the tool, push the lower and upper cases apart to separate the retaining clips.

Step 23




- While pushing the upper and lower cases apart, use the tip of a spudger or the finger of an Xbox 360 opening tool to push the long clip highlighted in red toward the center of the 360.
- The clip should release, leaving the clips near the power connector as the only thing holding the upper and lower cases together.

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Step 24



- Press the Xbox 360 opening tool down into the two remaining clips near the power connector.
- Push the upper and lower cases apart to fully release the retaining clips.

Step 25



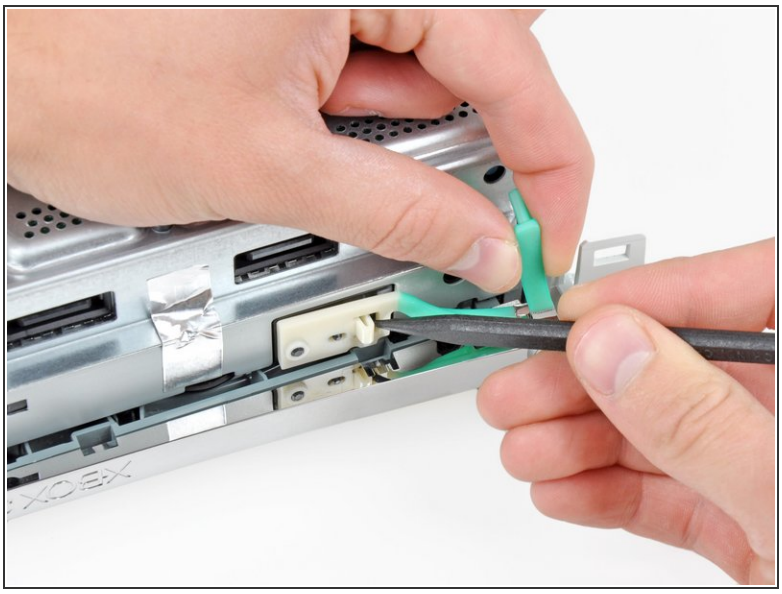
Orient the console so that the front portion is facing downwards.

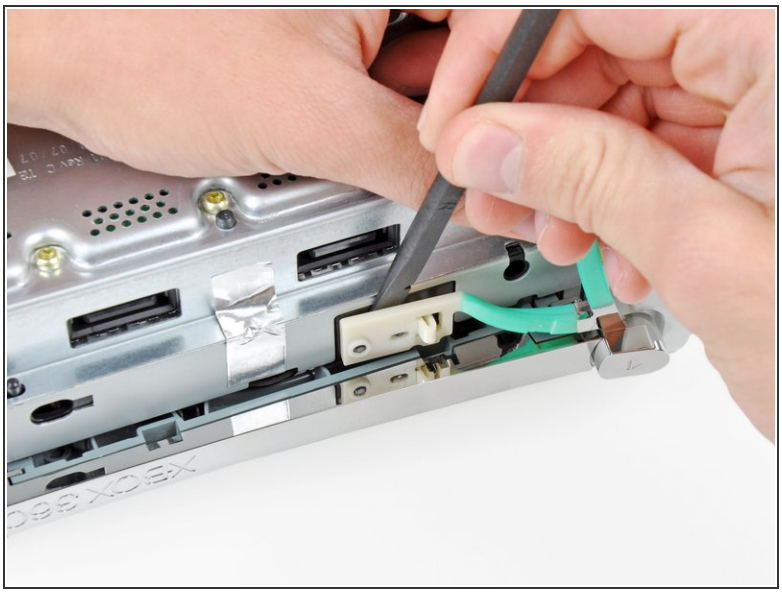
- Grasp the back portion of the lower case and lift it upwards to separate it from the console.

Be careful not to excessively bend the lower case near the power plug, as it can crack easily.

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Step 26 — Eject Button



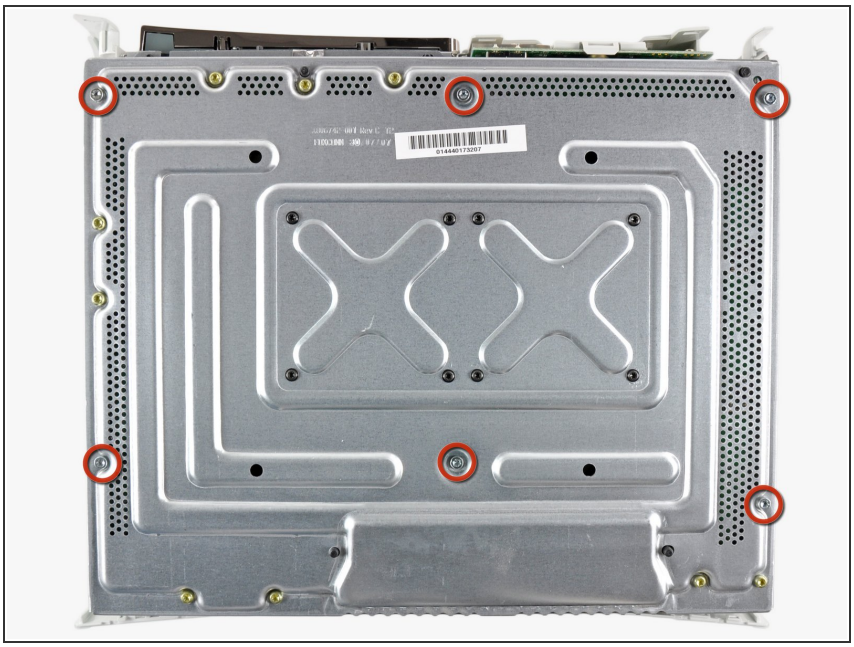


- Use the tip of a spudger to release the clip securing the eject button to the metal casing.
- Insert the flat end of a spudger between the eject button and the optical drive.
- Pry the eject button off its retaining posts and remove it from the 360.

This can also be accomplished using an Xbox 360 opening tool.

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Step 27 — Upper Case



- Remove the six silver 64 mm T10 Torx screws securing the upper case to the metal casing.

Step 28



- Orient the console so that the upper case is facing upwards.
- Lift the upper case straight up and remove it from the console.

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Step 29 — Optical Drive



- Peel the silver tape securing the optical drive to the metal casing.

Step 30



- Slightly lift the optical drive upwards to gain clearance to disconnect the SATA and power connectors located on the backside of the optical drive.

⚠ Don't try to completely remove the optical drive just yet. Two cables still connect it to the motherboard.

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Step 31





- Grab the power connector by its cables and pull it straight out of its socket on the optical drive.
- Disconnect the SATA data connector from its socket on the optical drive by pulling it straight away.

Step 32

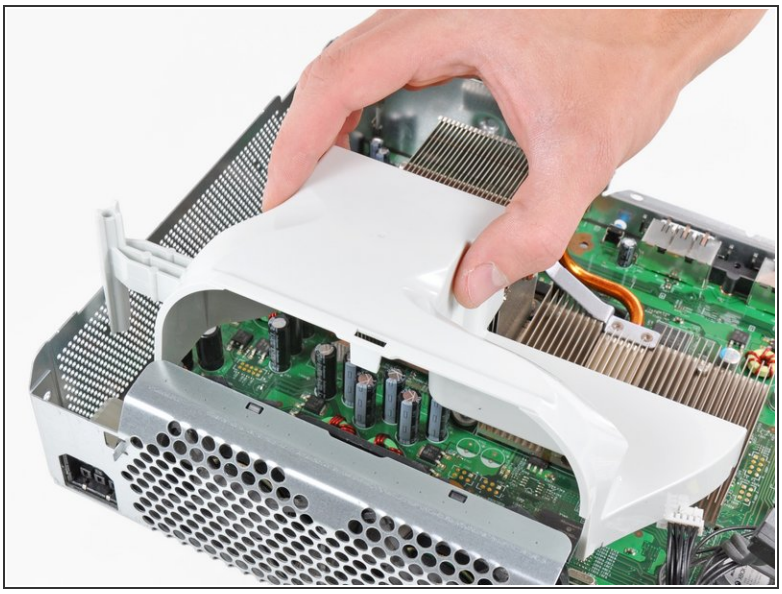


- Lift the optical drive assembly out of the metal casing.

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Step 33 — Cooling Fan Duct

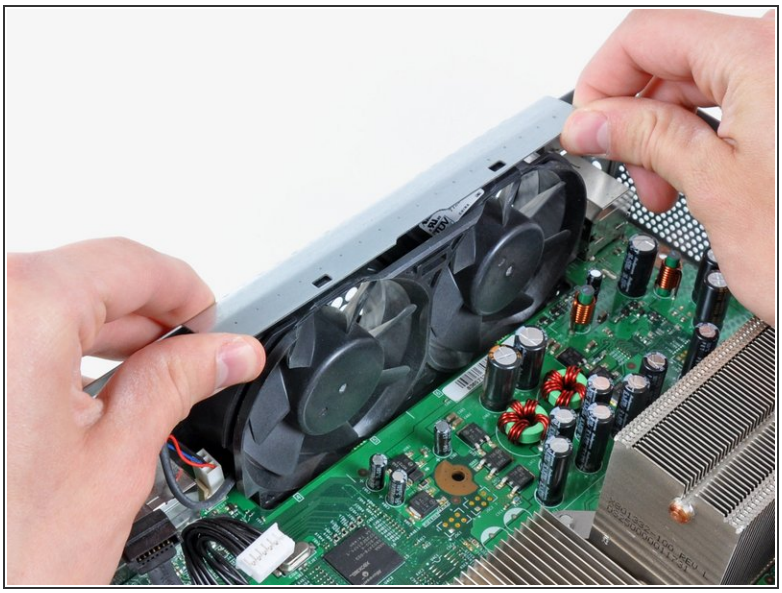


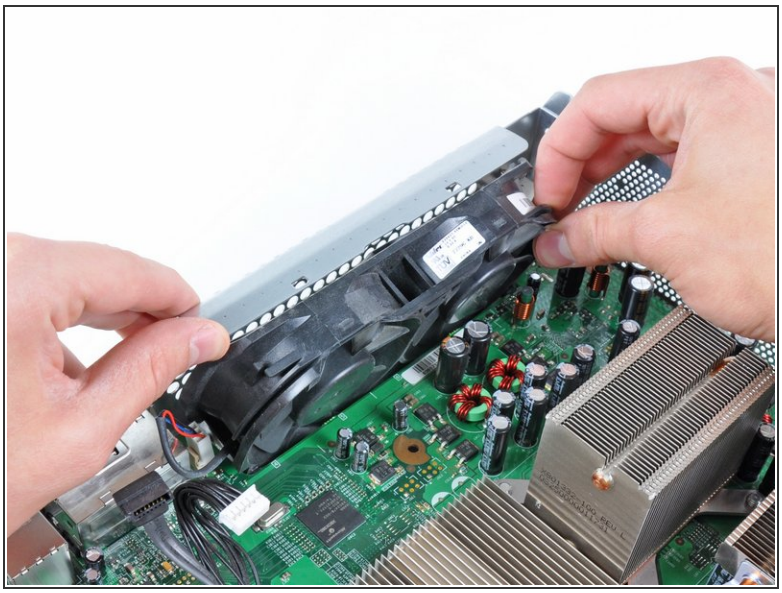


- Insert the flat end of a spudger into the small rectangular opening on the top of the cooling fan duct.
- Carefully release the fan duct retaining clip and remove the fan duct from the Xbox.
- The clip can alternatively be released using the metal finger of an Xbox 360 opening tool.

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Step 34 — Dual Fans

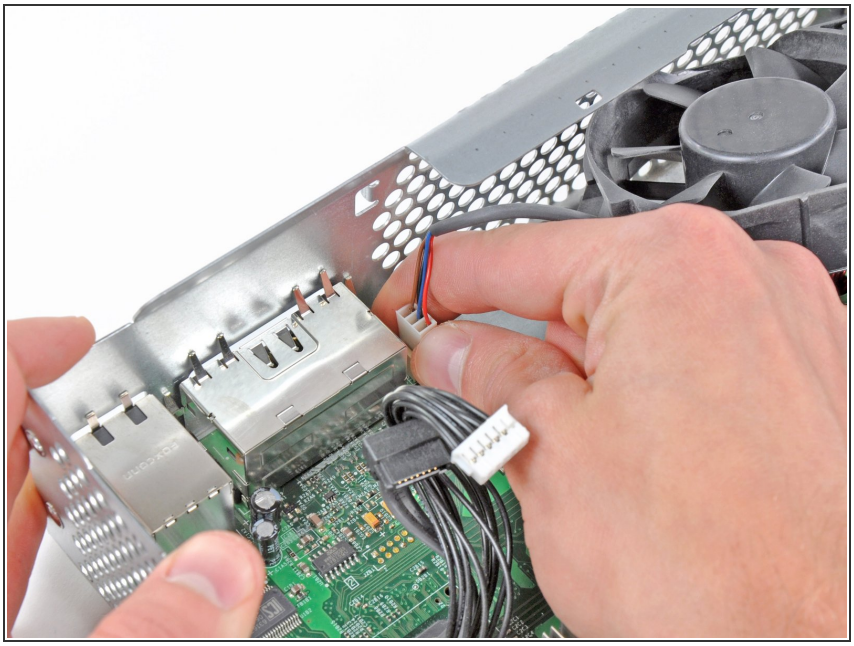




- While lifting the metal chassis strip above the dual fans, pull the fans toward the center of the motherboard.

⚠ Do not completely remove the dual fan assembly yet. Its cable is still attached to the motherboard.

Step 35



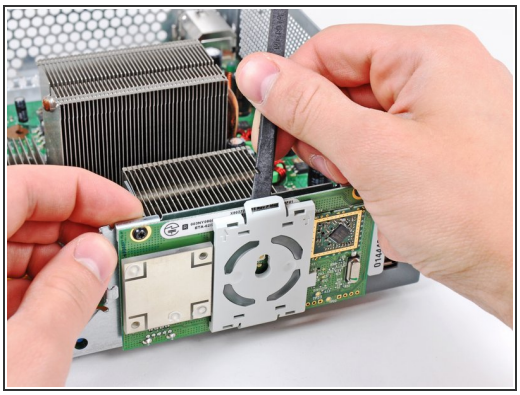
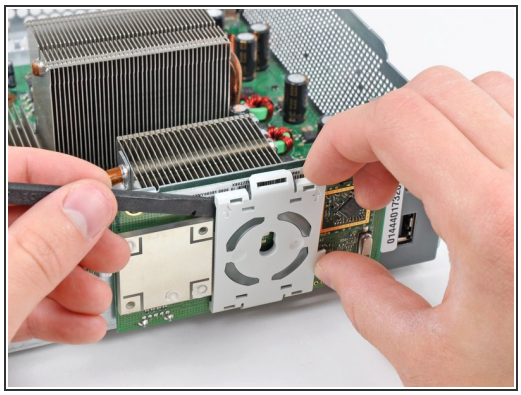
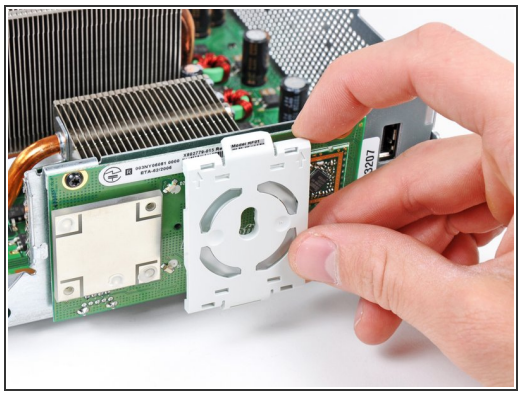
- Lift the dual fan connector straight up from its socket on the motherboard.

ⓘ Some fan connectors have a locking tab. If yours has a locking tab, be sure to depress it while disconnecting the fan from the motherboard.

- Remove the dual fan assembly from the console.

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Step 36 — Motherboard

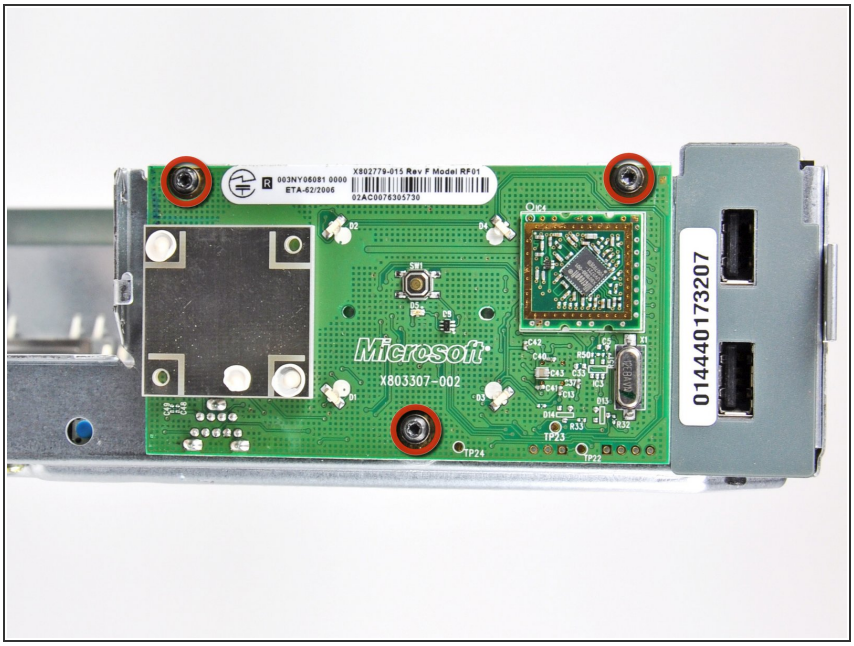




- Use the flat end of a spudger to release the clips securing the RF module shield along the top and the left edge of the RF module.

It may be easier to use your fingernail to release the clips from the RF module.

- Remove the RF module shield from the console.

Step 37

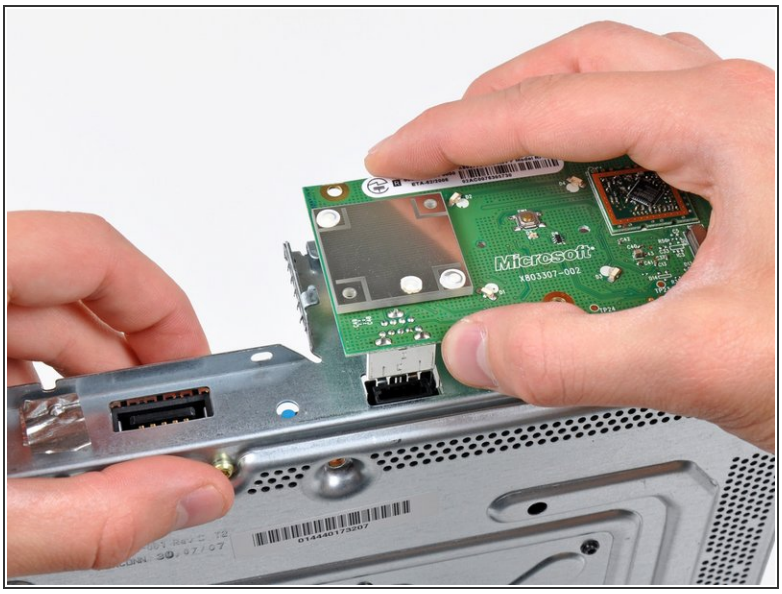


- Remove three 5.6 mm T8 Torx screws securing the RF module to the metal chassis.

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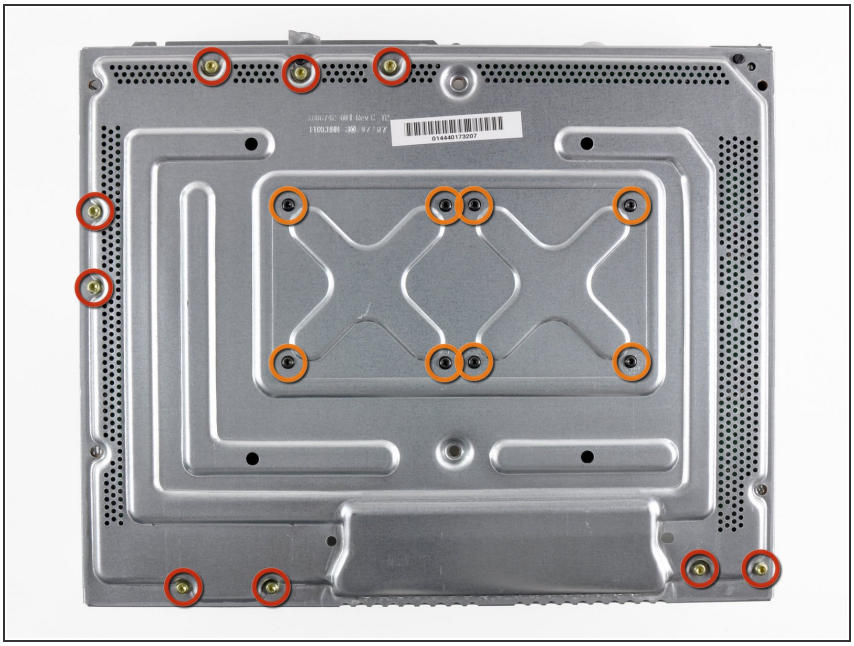
Step 38





- Grasp the RF module and lift it straight up to disconnect it from its socket on the motherboard.
- Remove the RF module from the console.

Step 39



- Remove the following screws securing the motherboard to the metal casing:
  - Nine gold 11 mm T10 Torx screws.
  - Eight black 5.6 mm T8 Torx screws.

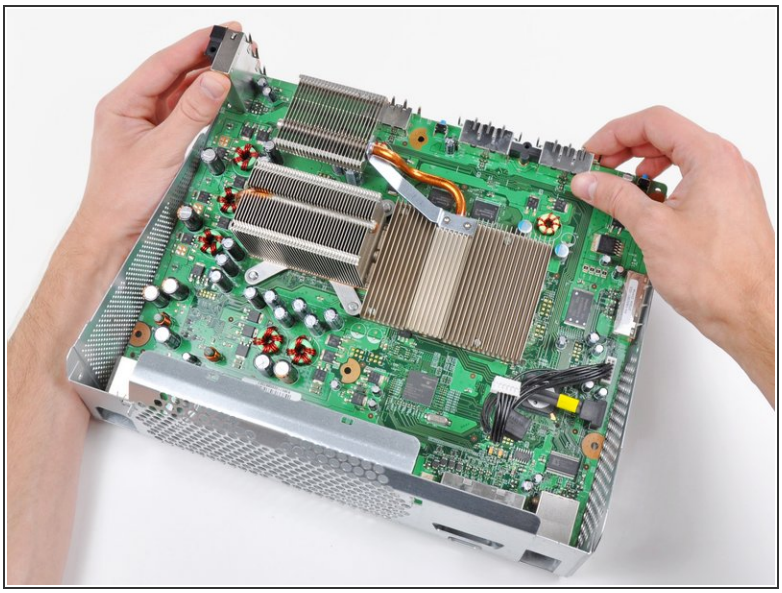
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If you are reassembling your Xbox 360 after installing the Red Ring of Death Fix Kit, the eight T8 Torx

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screws circled in orange are not reused.

Step 40





Turn the Xbox over, being careful not to let the motherboard fall out of the chassis.

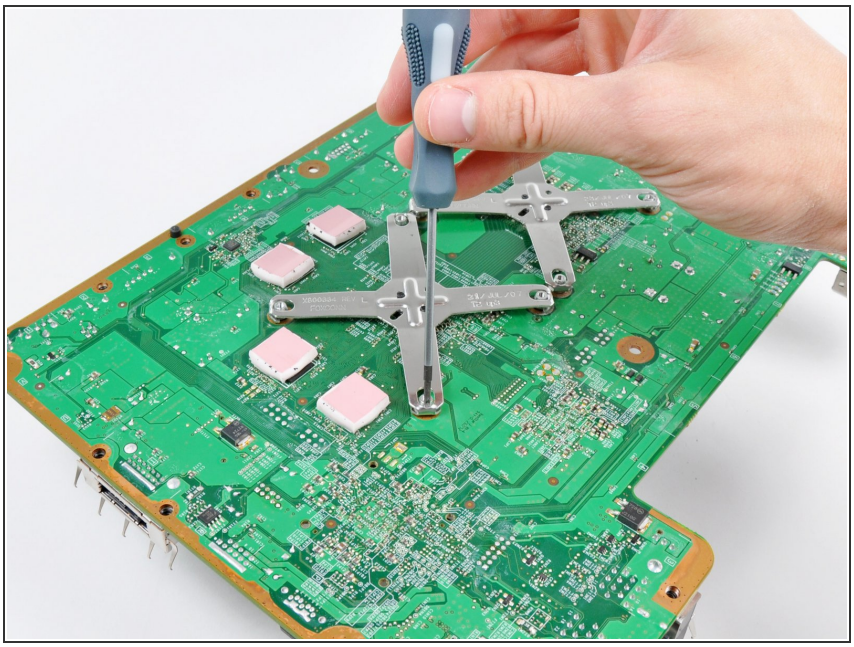
- Lift the motherboard assembly from its front edge.

Be careful not to damage the sockets as you rotate the motherboard away from the metal casing.

- Remove the motherboard assembly from the metal casing.

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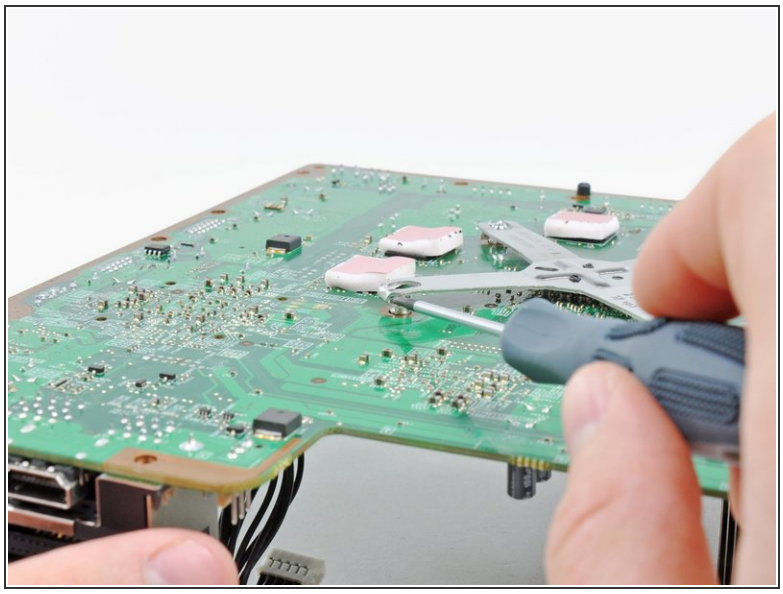
Step 41 — GPU Heat Sink

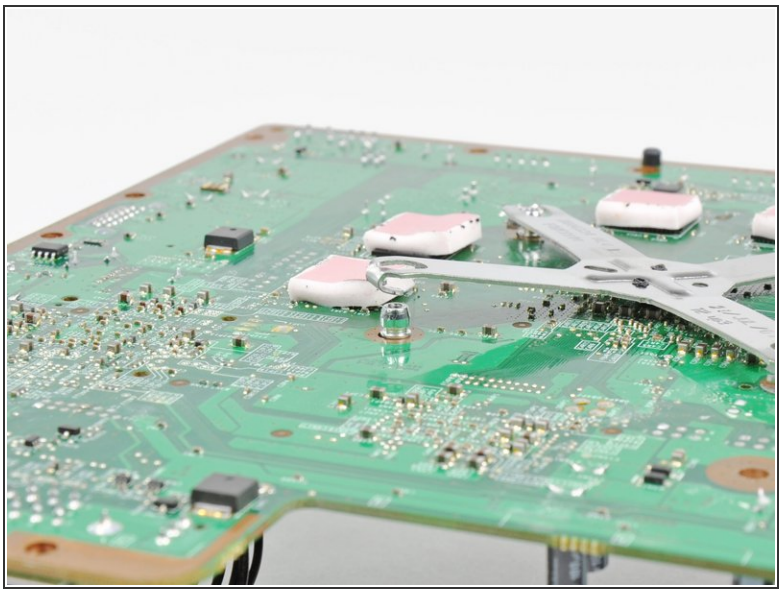


- Insert the tip of a small flathead screwdriver between the X clamp and its retaining post on the heat sink.
- Pry the X clamp away from its retaining post until it is lifted above the small groove cut into the retaining post.

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Step 42





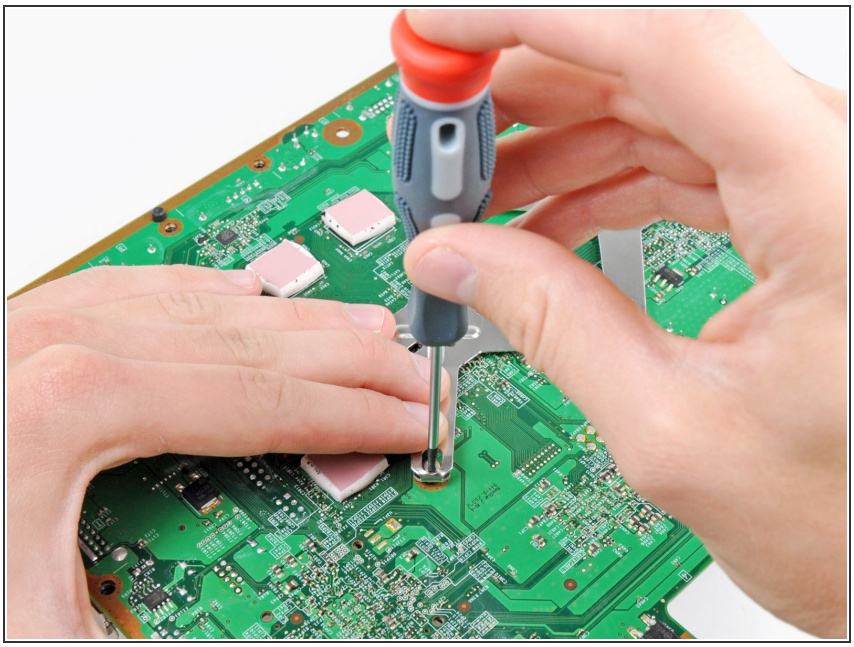
- Insert your screwdriver parallel to the motherboard between the X clamp and its retaining post.
- Twist the screwdriver to fully release the X clamp from its retaining post.

Repeat this process for all four corners of the X clamp.

When removing the last corner of the X clamp and holding the motherboard upside down, be sure to catch the GPU heat sink to avoid damage from it falling.

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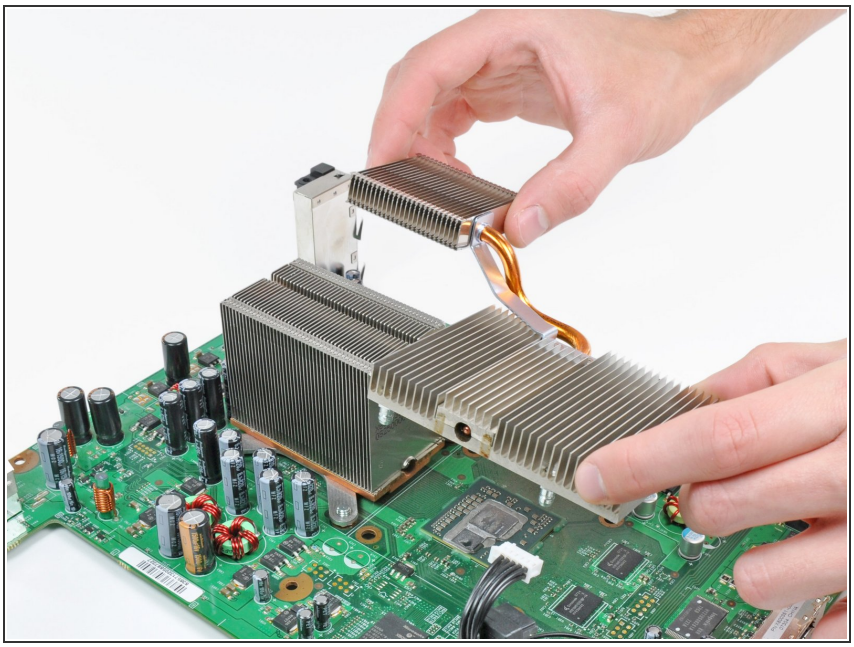
Step 43



- To reinstall the X clamp, first start by attaching two corners to the posts on the heat sink.
- While holding the third arm of the X clamp down against the post attached to the heat sink, use a small flathead screwdriver to pry the X clamp away from the heat sink post.
- As you pry, press down on the arm of the X clamp until you "walk" it down into the retaining groove cut into the post attached to the heat sink.
- Repeat this process for the fourth arm of the X clamp.

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Step 44



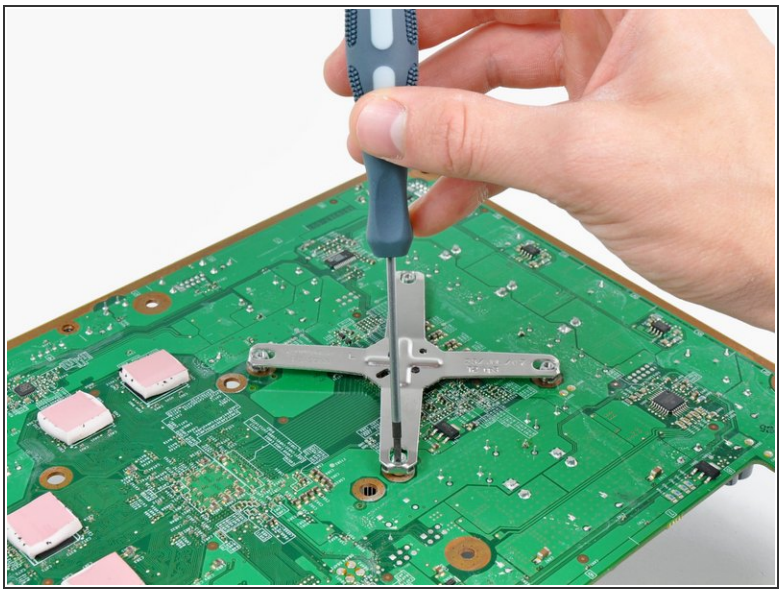
- Remove the GPU heat sink.

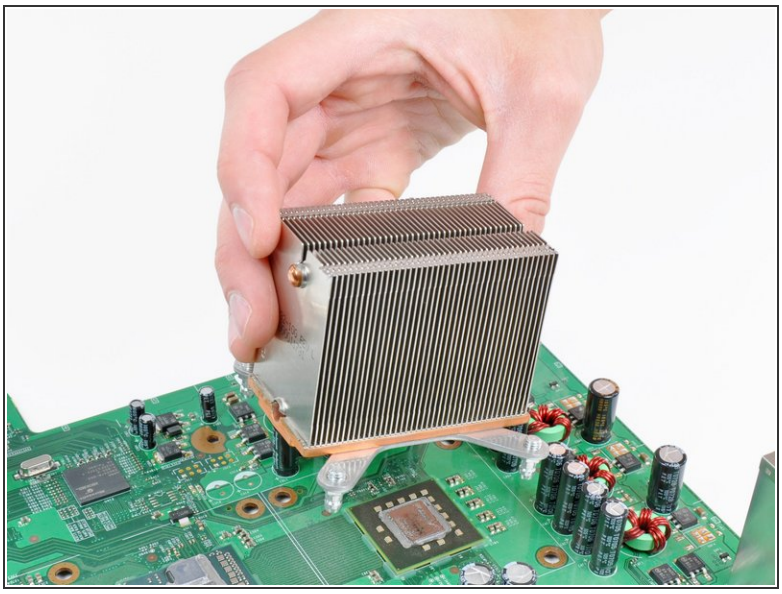
⚠ Before reinstalling the GPU heat sink, be sure to apply a new layer of thermal paste.

ⓘ If you need to mount the heat sink back onto the motherboard, we have a thermal paste guide that makes replacing the thermal compound easy.

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Step 45 — Motherboard





- Insert the tip of a small flathead screwdriver between the X clamp and its retaining post on the heat sink.
- Pry the X clamp away from its retaining post until it is lifted above the small groove cut into the retaining post.

If necessary, insert your screwdriver parallel to the motherboard between the X clamp and its retaining post. Twist the screwdriver to fully release the X clamp from its retaining post.

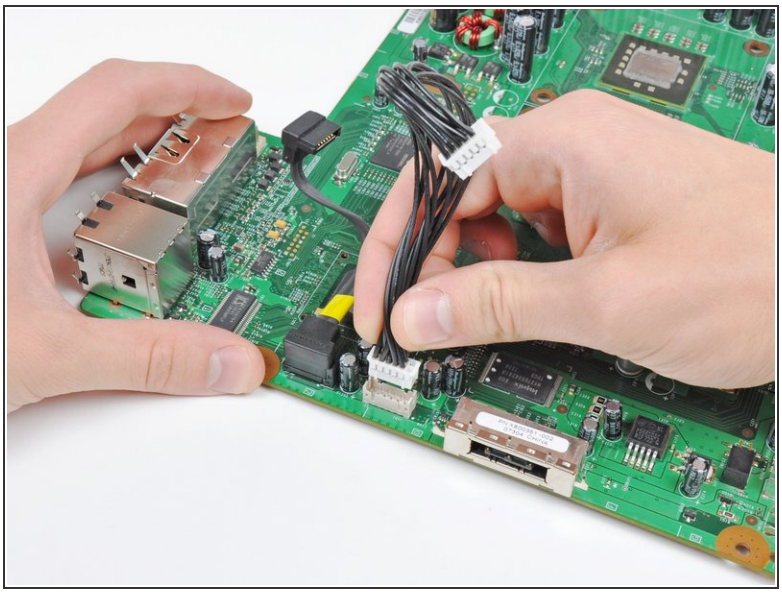
Repeat this process for all four corners of the X clamp.

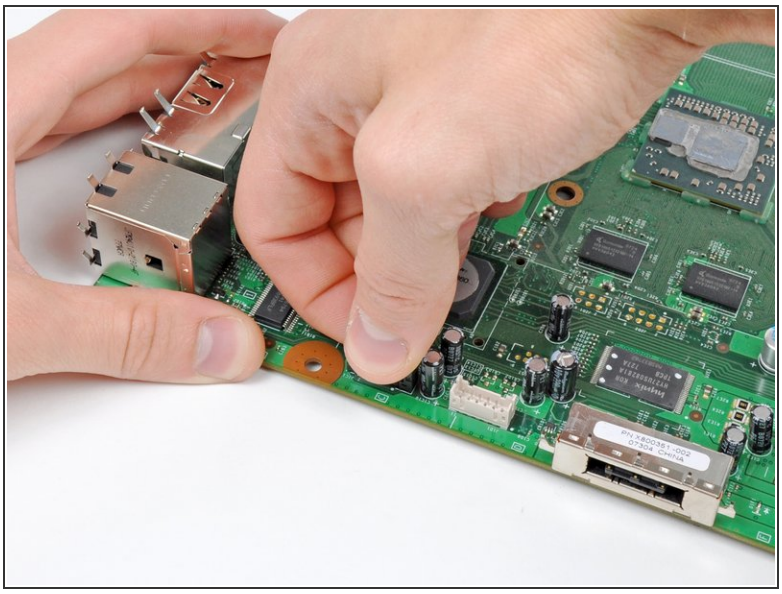
When removing the last corner of the X clamp and holding the motherboard upside down, be sure to catch the CPU heat sink to avoid damage from it falling.

- Remove the CPU heat sink from the motherboard. When reinstalling the CPU heat sink, be sure to apply a new layer of thermal paste.

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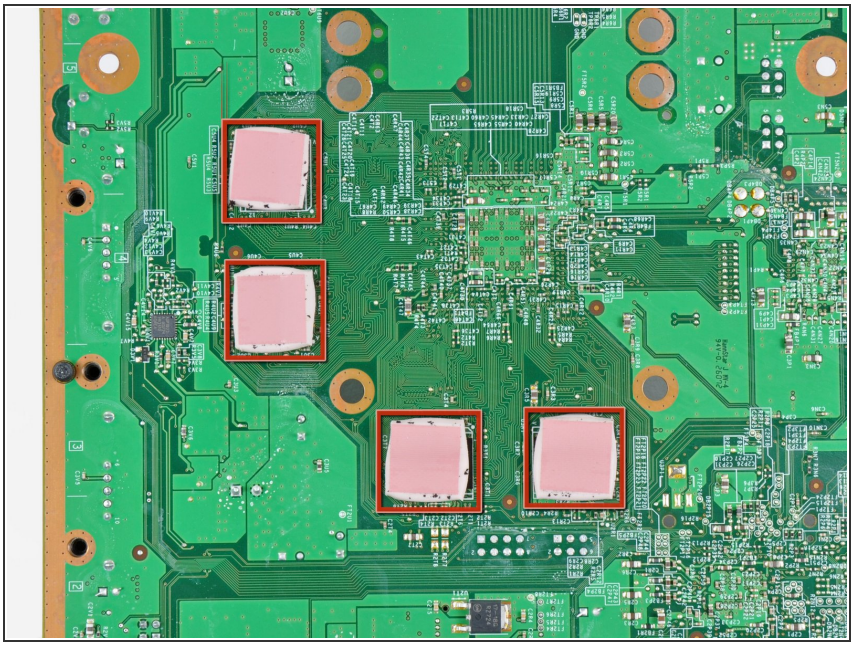
Step 46





- Disconnect the optical drive power and SATA cables from the motherboard.

Step 47

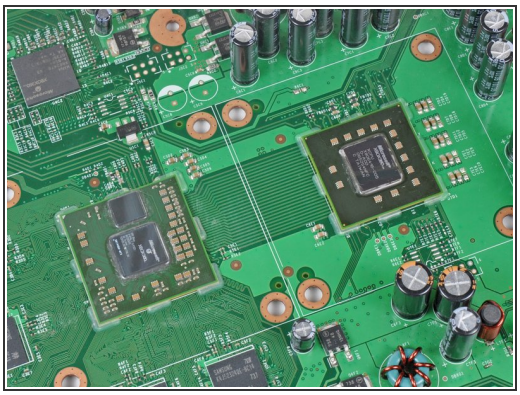


- If replacing the motherboard transfer the four thermal pads on the underside of the motherboard to your new motherboard.
- Motherboard remains.

The DVD drive and the motherboard are "married" when they leave the factory. If you replace one you must replace the other. If you put any old DVD drive onto a motherboard that it is not "married" to it will only play DVDs, no games. It is possible to alter the keys so that they match.

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Step 48 — Reflowing Xbox 360 Motherboard





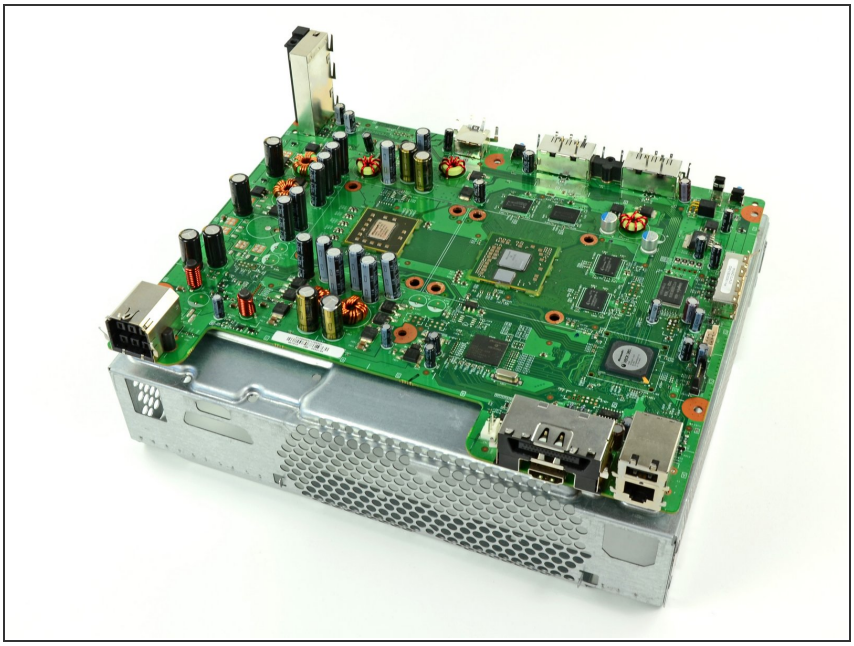


⚠ Before heating up the motherboard, be sure to clean the old thermal paste off both the CPU and GPU until they are as clean as the processors seen in the first picture. The process for cleaning the processors can be found here.

- Lay the motherboard with the processor side facing down on the flat metal bottom of the the bare chassis (with its open side facing down) as seen in the second picture. Allow the tall USB socket to hang over the edge of the chassis so the board sits flat.
- Use a heat gun on the **LOW** setting to heat the entire back of the motherboard for **one minute**. Be sure to continually sweep the heat gun back and forth across the face of the motherboard to evenly heat it.

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Step 49

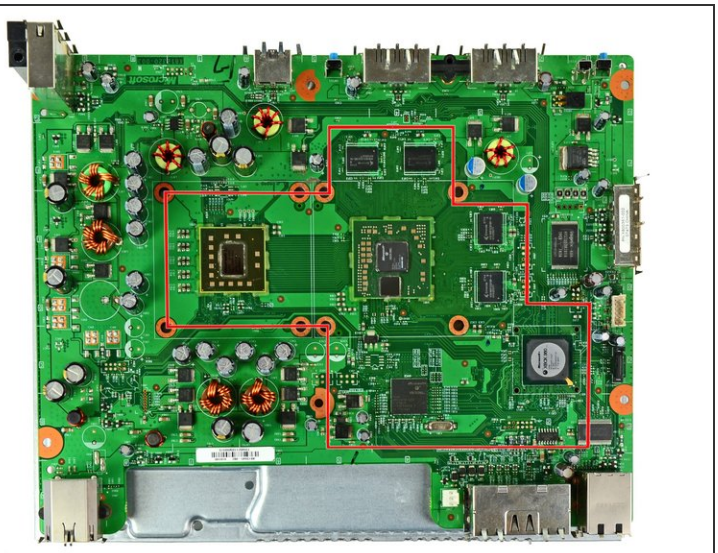


- After heating the back of the motherboard for one minute, flip the motherboard over and lay it on the chassis as shown.

⚠ If you have installed the RROD fix kit already, keep the two small black heat sinks included in the kit stuck to their respective chips. The tape that is used to attach them to the chips on the board is extremely strong and attempting to remove them may damage the chips underneath. The heating process will not damage the heat sinks in any way.

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Step 50





- With your heat gun set to **HIGH**, evenly heat the area boxed in red for **four** minutes.

⚠ When using the heat gun on high, it is extremely important to continually move the heat gun so the stream of hot air evenly heats up the desired area.

⚠ Avoid directly heating the many cylindrical electrolytic capacitors located near the area boxed in red.

- After heating the area boxed in red for four minutes, turn off your heat gun and allow the motherboard to cool down to room temperature without moving or disturbing it in any way.

ⓘ At this point, we strongly recommend installing our Red Ring of Death Fix Kit to safeguard against future failure.

To reassemble your device, follow these instructions from Step 48 in reverse order.

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