

Turning the v1.0 xbox silent



by Ja Xbox

Goal

The goal is to get rid of the somewhat noisy GPU-fan in the v1.0 Xbox (all other versions of the Xbox are shipped with just a heatsink). We can achieve this goal by replacing the GPU-heatsink+fan on the v1.0 Xbox with a heatsink of suitable proportions (it needs to fit below the DVD-drive, and still sufficiently cool the GPU). The procedure is pretty straight forward, and I was able to complete it in about 30 minutes – including the 15 minutes where the 2-component thermal epoxy glue needs to cure.

What you need

- A [Zalman NB32J](#) heatsink
- A large regular screwdriver
- Torx 10 and 20
- Plastic gloves or a plastic bag to protect your hands from the epoxy glue
- (Optional) A soft piece of cloth and pure alcohol - denaturised spirit will do

Step 1: removing

First of all, we need to remove the original heatsink with the noisy fan attached, so open up your Xbox (this is where the torx 10 and 20 are utilized) and expose the Xbox motherboard by removing the harddisk and DVD-drive. (This tutorial will not cover the basic part of opening up the Xbox. If you need reference, I suggest you visit [XboxInside](#)).

After you've taken apart the box, and exposed the motherboard, locate the GPU-heatsink and fan. Use the picture below for reference.



Now, we need to use a little bit of force in order to remove the heatsink (and thereby also the fan) from the GPU, which of course is located directly under the heatsink.

Use the regular screwdriver for this job, by lifting the heatsink from below with the tip of the screwdriver. You can use the small plastic edge around the GPU, to rest the screwdriver on, while you at the same time are pushing the handle of the screwdriver down, and thereby forcing the heatsink up.

In the beginning you'll probably get the feeling that it's impossible to lift the heatsink clear of the GPU – I'll admit that it takes a bit of fiddling, but eventually that heatsink should pop right off.

When you finally succeed in removing the heatsink, you should have an exposed GPU, like the one below.



Don't worry about the small amounts of yellowish goo that possibly are left behind by the heatsink – it's not a problem removing them.

Step 2: cleaning

(This step is optional, but I'll strongly recommend following it)

It's a good idea to clean the GPU before attaching the Zalman heatsink (especially when you consider the fact, that we'll be gluing the new heatsink onto the GPU).

First of all, take the soft piece of cloth and pour a very small amount of pure alcohol (such as denaturised spirit) onto it. Now, carefully wipe the GPU with the wet piece of cloth, and give the alcohol about 30 seconds to evaporate before going ahead with the next step.

Step 3: attaching

When you've gotten hold of the Zalman NB32J heatsink, the contents of the package should look like the one seen below.



Because of the fact, that we need to attach our Zalman heatsink using the thermal glue (due to the lack of holes in the Xbox motherboard), we'll not be using the small screws or thermal compound, which is also included in the package.

We only need to use the two syringe-like containers and the heatsink itself.

The thermal glue is a 2-component epoxy glue that definitely classifies as “relatively toxic” – so I would recommend using plastic gloves or plastic bags on your hands together with a nice airflow, when you're applying the glue onto the heatsink and GPU.

ATTENTION

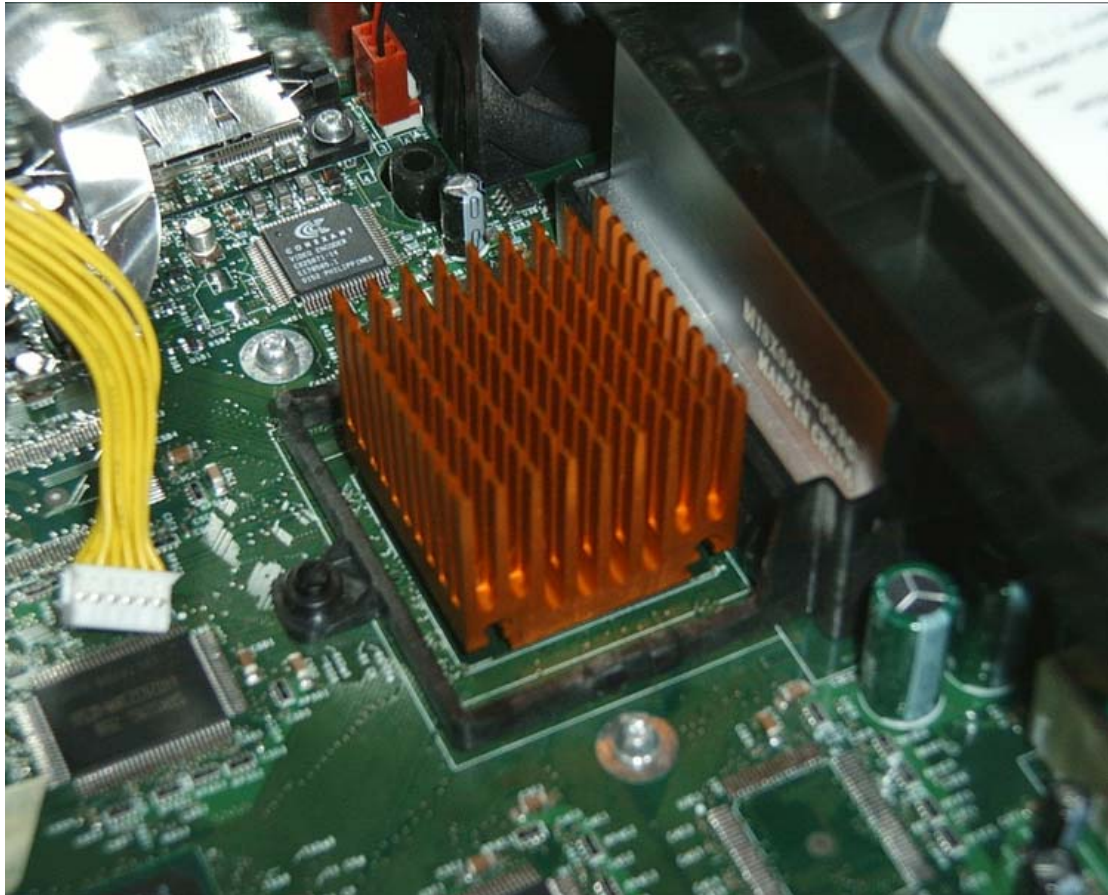
You will NOT be able to remove the heatsink after you've applied the glue to the heatsink and GPU, and firmly pressed the two together. This solution is permanent.

ATTENTION

The green glue (otherwise labelled “Thermal Adhesive A”) goes onto the bottom of the heatsink, while the red glue (labelled “Thermal Adhesive B”) goes onto the GPU. Make sure not to use too much glue (it's not necessary to empty the containers), and spread it out evenly, using your finger. Please note that the bottom of the heatsink won't completely cover the GPU, so you must NOT completely cover the GPU in red thermal glue – otherwise you'll have an area with exposed glue evaporating into the air, while you're gaming along. And we can't have that, can we ☺

Immediately after you've applied the glue to both the GPU and heatsink, firmly press the heatsink onto the GPU for about 10 seconds. After that, the glue will need to cure for about 15 minutes. The first time you startup the Xbox, after having attached the Zalman heatsink using thermal glue, you'll probably notice a foul smell coming from your Xbox – this is normal, and it'll only happen once.

The final result should look like this.



Monitoring your temperatures

In my experience this mod sufficiently cools the Xbox-GPU, but I would still recommend monitoring your temperature-readings to make sure your Xbox doesn't overheat.

The following temp-readings are from my own Xbox with a Zalman NR32J heatsink:

In "idle mode" (after 1 hour)

CPU = 51°Celsius / 123.8°Fahrenheit

MB = 42°Celsius / 107.6°Fahrenheit

After 5 straight hours of Halo

CPU = 63°Celsius / 145.4°Fahrenheit

MB = 47°Celsius / 116.6°Fahrenheit

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