

This is the world's first Do-it-yourself commercial X-Clamp-Fix Kit available. With this Kit you'll be able to fix the 3 Red-Ring-of-Death Issue on XBOX 360 permanently. The idea came from some Hackers in the Console Scene and is enhanced to perfect by a German Engineer. All the Content in this special Kit is made in Germany and including quality parts that are usually NOT available at local Hardware Stores ! Here're detailed explanations with pictures :

What causes the 3RR0D normally ?

It happens when a solder connection between the GPU (Graphic-Processing-Unit) and the Mainboard break or become loose.

Why does the solder connections break earlier or later ?

The basic reason we found out is that the metal housing of the 360 is not straight bended by production. The bended area is exactly there where the GPU sits. That means if you screw in the Mainboard it will exactly bended like the metal case. This mechanical tension to the mainboard will break the soldered grid ball connection earlier or later. The original X-clamp does not produce enough pressure to the heat sink to keep the mainboard straight connected to the GPU. The original X-clamp is made of ordinary steel what really doesn't help in this case. It lost pressure in a few months. The only steel that delivers enough pressure power is spring steel. This is exactly the material we use for some of our parts used in this special Kit. (Click on the picture for high resolution)

This pictures proofs that there is a Gap of 1 - 2 mm under the GPU. Check it at your own X360 Metal Housing. EVERY Case we test shows this Gap.



The following picture shows that the original X-Clamp is made of plain Steel. You can bend it in any position you like and it stays there. That means that the original X-Clamp does not produce enough pressure to the Heat Sink.



On the next picture you see Microsoft's attempt by adding an extra Heat Sink to the GPU. This picture is made from a Customer's replacement 360. After 3 hours of continuous playing he got the 3RR0D :-). That says all I think...



What parts are included in the X-Clamp-Fix and what makes the difference here from other non commercial kits ?

1. 4 pieces of low Lens Head Stainless Steel Machine Screws 5mm x 10mm with a low height Lens Head. If you follow the direction from other X-Clamp Tutorials you have to drill bigger holes because of using standard Machine Screws with big head. The screws we use in our kit matching exactly the room between the mainboard and the metal housing. We never get those Screws in a local Home Improvement Store here. We have to buy them at industrial supplies in big quantities.
2. 4 pieces of Spring washers made of Spring Steel 5mm. These special washers keeps the pressure high on the hole connection between the mainboard and the metal housing. These special Spring washers avoids that the screws become loose in time. In other tutorials simple flat washers are used. That means that getting the 3RR0D again is just a matter of time.
3. 4 pieces of Distance Washers made of Nylon 1mm thick. These isolating distance washer are made of hard and hot resistance Nylon. Nylon is near as hard as steel and additional it keeps away short circuits as they're placed on top of the mainboard and we can't use metal hear. Why do we choose Nylon ? Because of its hardness and wear lifespan. In our first experiments we

use the plain plastik washers used in the other tutorials and we recognized that they`re shrinking very quickly when we turn in the screws Tightly. When we measure the washers they shrunk from 1mm to 0.5mm and that was the point when we kicked them out of the kit. The distance between the Heat Sink and the mainboard is very important as it produces exactly the pressure we need. Not to low and not to high. These Nylon washers were not available in any Home Improvement Store here. We have to buy them at industrial supplies in big quantity. You see no difference if you have plain plastic or Nylon. But you can test it. Just try to shrink them with a flat plier.

4. 4 pieces of Stainless Steel Washers 1mm thick. These washers lay on top of the Nylon Washer so you have a whole distance of exact 2mm. This is the world`s first Do-it-yourself X-Clamp-Fix Kit available. With this Kit you`re able to fix the 3 Red-Ring-of-Death Issue on XBOX 360 FOREVER. The Idea came from some Hackers in the Console Scene and is enhanced to perfect by a german Engineer. All the Content in this special Kit is completely made in Germany ! Here`re some explanations.

What follows now is a tutorial that shows how the kit is installed in 4 steps (Click on the pics to see a higher resolution). You can use the high quality Xbox 360 unlock tool offered in our shop to open your Xbox 360. It is described on this Page :

<http://www.clevermod.com/index.php?article=24>



1. Loosen the original X-Clamp is easy. Just Push a thin Screw driver in the gap between the screw and the X-Clamp and turn it around.



2. To pull the Heat Sink grab it at the 4 edges and pull carefully with rising power then it comes up easily. Now turn out the screws with a Heavy Plier. Cleaning the Heat Sink is absolutely not necessary. We found out that the GPU eventually runs around 1 Degree cooler with a cleaned Heat Sink but that makes no sense as there is no difference in operating or the failure rate. And you learned from the facts above that the 3RR0D is NOT a cooling problem.



3. Put the Spring Washers over the Lens Head Screws and push them into the holes. Then lay one hand over the screws to secure them and turn the Mainboard 180 Degree.



4. Now bring on the Nylon Washers on the Screws first then the Metal Washers. Now comes the difficulty part. Lay the Heat Sink over the Screws and turn the Screws carefully clockwise so the first 2 windings goes in. Then turn the screws in equally over cross with a 3mm hexagon tool. At the end turn them in very strong and tightly with great Power. You can see the whole Procedure on this YouTube Video here :

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Now comes the baking trick ! This is very important ! After applying the Kit mount the Power Switch Plate to the front. Then connect the Power and Video Cord and power on with DISCONNECTED Fans. After a while when the 360 gets overheated 2 Red-Rings-of-Death are lightning. Now pull the Power Cord and let cooled it down.

Why are we doing this ?

Well when the GPU heats up the skin of the solder grid balls under the GPU began to melt a little bit on the surface. Then under the pressure of the X-Clamp-Fix all balls are getting into the right place totally straight between the Mainboard and the GPU. You can see the whole Procedure on this YouTube Video here:

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Now you will have fun again with your 360 without the bad 3RROD`s. We started with this Fix for our Customers 2 month ago and they still running fine !

Note: If you receive graphical errors or crashes then the "Hot Air Gun Trick" is needed instead of the "Baking Trick". Because the Temperature is higher and the solder balls will bake much better then. YouTube video here :

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Here are some hints for the Heat Gun Trick :

1. Use a Heat Gun with 2000 Watts not less
2. Heat the Upside (Chipside) for 8 minutes in a distance of 17 - 20 cm. Don` t heat the downside ! Heat up the GPU, CPU and the 4 Memory Chips around the GPU.
3. Let it cool down for 30 minutes then use some cheap white thermal conductive paste on the GPU and CPU before you re-install the heat sinks.